

number at 98 concerning an area of 937½ acres. The grand total of all the leases executed last year on the Kendraparah Canal is therefore, 1,101 in number, for 3,13½ acres 6 goonts 1 biswas.

6. For easy and speedy execution of the leases, I think the Company's Mohurirs should have power to measure the lands to be included in the leases, and the measurement may subsequently be checked by superior Officers of the Company. The sale of water by volume is the most convenient mode of distributing water, but the annual leases and the single crop leases necessitate the sale by area. It is therefore, of the greatest importance for the Company to have irrigation field maps, which can be prepared with the aid of the Revenue Survey maps and the village Bhowrias.

7. It is very gratifying that the parties mentioned by Mr. Taylor who were dissatisfied last year on account of the failure on the part of the Company to water their crops, which died off in consequence, have again taken out leases. Their water rates of the last year have not been taken, and Mr. Boothby has given them suitable compensations.

8. The distributaries of the Kendraparah Canal, which has gone down as far as Poubhuns, are at present in length as follows:—

Distributaries.			Miles.
No. 1	...	...	10
" 2	...	...	2½
" 3	...	...	3
" 4	...	...	4
" 5	...	...	4½
" 6	...	...	8
" 8	...	...	9
" 10	...	...	1½

The 7th and 9th distributaries have not yet been undertaken. The only distributary of the High Level Canal, which has been opened, is the distributary No. 1, it has gone down about eight miles. Three or four more distributaries will be made ready in a short time. However, water can be given from the Main Canal, which now extends a little beyond Korai, whenever it is wanted. But the people on the High Level Canal are less prepared to take water than those on the Kendraparah Canal, the reason of which is to be found in the fact that the latter have been longer under instructions, have seen more distributaries, whose water is in itself a great temptation to them; and have seen some experiments made before their eyes. I think the one set of cultivators is at least an year in advance of the other, in respect to irrigation.

9. While the other works of the Company had to be slackened during the rains, the second lock of the Kendraparah Canal, which is at Barburia, has made a very rapid progress. I think within a fortnight hence the gates will be put on, and boats will be able to pass up to Kendrapatna, the place of the third Lock.

10. Since none of the leases executed in 1866 came to hand till June, I devoted the entire period, from the date of my joining office on the 8th April to the end of May, only to assist Mr. Taylor in inducing the people to make use of the water provided for irrigation.

11. From different stations I inspected the Company's works; visited the principal villages, by or through which the canal and the distributaries pass; and held conferences with most of the head ryots and teldars of their zemindars, who were not to be seen in the Mofussil. The people everywhere expressed their gratitude to the Company for having saved them from the evils of drought and flood, and their willingness to take water whenever rain failed, and for such dry season crops as brinjals, &c., which they have now to grow by baling water at a greater cost, or cannot grow for want of water. But nowhere did I find a man that would enter into annual leases for two crops on the same ground, or single crop leases for growing an additional paddy crop on the same ground, or any other new crop on the paddy fields, as they did not know what benefits could be derived therefrom. In short, the people generally seemed not to believe in the utility of irrigation water for growing an additional, i. e., a new crop on the same ground, excepting waste lands, which could of course be thereby brought under cultivation; neither did they appear to entertain any hopes of improving the quality or quantity of their crops by irrigation. Our endeavours, therefore, as it seemed to me at the time, bore but little fruit. One good result, however, was for the first time then established. The people then came to know from us the exact relation which exists between the Company and the Government. And this knowledge, I have reasons to believe, led them to consider more seriously than before, the question of the water provided for irrigation, the effects of which I hope will soon appear.

12. The cultivators are ready to use the water, if they see they can make any benefits from it. But no experiments have yet been made to convince them of their erroneous notions, and they do not choose to make any themselves, as they are sure it must fail. Their past experience on the contrary supports their opinion. The failure of the Company's model farm, and of the last year's crop, is a sad precedent with them. The cause of the failure of the farm, as I have understood, was mismanagement on the part of the Company's Officer, whom it was entrusted with. He proceeded with the cultivation, regardless of the nature of the soil, season and seed; and it is no wonder the consequence would be a disappointment. And

the ryots, too anxious to grow a Dalooa crop last year, when rice was so dear, took no care to sow good seed on suitable soil, or on soil properly manured, they likewise failed, excepting in a few cases, in which the people of Barburia and Modhiokuch met with a partial success.

13. The people of Barburia *alias* Mahantishahy, and next to them, those of Modhiokuch, living near the second Lock of the Canal, where they must have met with several Officers of the Company, who no doubt frequently gave them instructions in the use of the water for irrigation, have now been able to raise a sarad paddy crop on the bealee fields, after harvesting the bealee: one Bhoolnec Soonyee, of the first named village, is said to have cut *three* paddy crops on the same Bealee field in the same year: one Dalooa, another, a Bealee; and then the third, a Sarad crop. None, however, of even these people have yet attempted to raise any additional crop on the sarad paddy grounds, either not believing they can produce any other crop, or they fear any other crop would interfere with the growing of sarad paddy, which is the principal production of their labor. At Barburia there is now not a *goat* of land, formerly waste, that has not been brought under cultivation by means of irrigation water; so that the first step, irrigation has taken, is towards the increase of the area of cultivated land in an estate, and yet the Zemindars do not wake up to their duties to irrigation!

14. While such is the faith of the ryots in irrigation in its full extent, that of the Zemindars is worse. Their greater intelligence has not enabled them to understand irrigation in a better light. On the contrary, more tenacious of old customs, and old customs have practically more force on them, with no knowledge of agriculture, they throw ice water on its object, so far as respects the principal parts of it, namely, the growing of an additional crop on the same ground, and the improvement of the quality and quantity of a crop. Their apathy and indifference remarkable as they are, might be construed into an actually secret opposition to irrigation. We sent for several of them, but scarcely one of any repute, came to hear what we had to say. Those who came were only the Tesildars, who promised to write to their principals on the subject, but never came back with any answer. But, however, I have yet found no reasons to believe that any one of them prevents his ryots to take water, when he wishes to do so. Most of the ryots are unnecessarily in dread of their Zemindars in the matter, and do not dare take water without previously taking their consent, which the Zemindars of course withhold, not only not believing that the same ground will produce another crop, which will pay the cultivators, but also fearing that, if any short crop be raised on the same field, it will have the only effect of reducing the quantity of the crop now being produced on it, and that their ryots consequently will be in a worse position to pay their rents, while on the High Level Canal in last September, some of the ryots, who had been sent for, first saw their Tesildar before coming to me, and they appeared less disposed to listen to my instructions, than others that came direct.

15. In such a state of things, it is certainly very desirable that some successful experiments should be made. By this however, I do not mean that irrigation will not spread without such experiments. All that I mean is that those experiments will immensely accelerate the progress of irrigation, while left to itself, it will increase but gradually. The water will of course tempt the ryots to use it, and they must do it by small quantities: one successful cultivation shall be followed by another, till the whole country be under irrigation. But this process will take much longer time. Mr. Boothby's plan will, I hope, compensate for the absence of experiments. He has proposed to offer bonuses to a few ryots of different localities, who will grow two crops of paddy on the same ground in the year. He will carry out his proposal in March next. The ryots, to get the bonuses, must grow the crops under instructions of the Company's Officers, must richly manure the seed bed, sow it about the middle of April, and transplant the young plants, when about *eight* inches high, in June, as soon as the Monsoon sets in. This crop may be cut with certainty in November, to be followed by another similarly cultivated crop in December, which may be cut in May, thus saving two months' time for ploughing and drying the fields, which cannot be had under the broad-cast system. The produce under the transplanting method, is sure to be very much greater than according to the other mode. I think the above scheme of Mr. Boothby is quite sound, only, I am not quite sure whether the very low lands will have *sufficient* drying before the second transplantation takes place, to destroy the roots of the previous crop, so essential to the growth of another. Of this I shall be able to give exact information in my next report, after actual inspection of the fields in December next. If there remains any water on them at the time, then this circumstance and the superior quality of the Jhils should be considerations enough to induce the Company to keep them clear of water in November, by efficient drainage.

16. The annual leases are the best, both for the Company's and the ryots' interests. The latter instead of growing single crops at Rupees 3, can, more profitably to themselves, grow for Rupees 2, in addition two crops of paddy under the transplanting method, the first one will be very much more in value than the present sarad, under the broad-cast mode; or they can grow the first irrigated crop of paddy, and raise any of the following crops according to the nature of the soil, namely, Mandooa, Kallye, Bagun, Moong, China, Wheat, Barley, Indian corn, Teshce, Cotton, Daloda, &c. Annual leases will save to the ryots a Rupee per annum per acre.

17. But I think that instead of two paddy crops, it will be better for the ryots to grow the first irrigated sarud paddy, and some such crop as *Nalajga*, *Teshre*, which can be easily grown on most, if not all, of the Sarud as well as the Beales fields, and is more valuable than paddy.

18. Whichever two crops the ryots may grow, they must give up their present mode of broad-casting, and alter the season for sowing the seed bed in adoption of the transplanting method, which must prevail in due time. The prospect of an additional paddy or other crop; the improvement in the quantity of the sarud paddy, which will also be safe from the effects of drought, or partial failure of rain, and from the evils of the October Gale, must, I believe, induce every cultivator to enter into annual leases in time. The October Gale, which is very frequent in Bengal and Orissa, injures the crops while in flowers. But an irrigated paddy will be nearly mature when that Gale happens, so that the crop cannot be injured by it.

19. The comparative advantages of cultivation, under the transplanting method over that under the broad-cast plan, is graphically described by Mr. Boothby in the following terms:—

“The difference of the two systems or methods may be compared to the difference between nursing and feeding a young child with every care and attention, and turning another child out of doors to feed itself.

20. It is very desirable to have precise and definite answers with regard to the following points in irrigation here; namely, (1.) Lands suitable for different crops. (2.) Method of preparation of the land. (3.) Manure when and how to be given. (4.) Time to be allowed to elapse, between each crop, method of ploughing and preparing the land. (5.) The particular sort of rice that is suitable for irrigated crop. (6.) The time of sowing in seed bed, and how to be planted, tended and manured. (7.) Age at which the same should be transplanted. (8.) The advantages of broad cast and transplanted crops. (9.) The quantity of water and number of floodings to be given before ploughing, the period to elapse between ploughing and sowing. (10.) The quantity of water in depth to be given to each crop after transplanted and sown. (11.) The number of floodings to be given to each crop, in order to bring it to maturity, and the intervals between each. (12.) The different crops that can be raised with success by irrigation, and the seasons for planting each. (13.) The probable outturn of each crop, the cost of seed, manure and labour. Answers to such questions would be an invaluable guide in pushing on the cultivation of irrigated crops, but in the present infant state of irrigation here, all of them cannot be obtained, as I have found by trial. In the few cases of partially successful cultivation of paddy, brinjals, &c., in the last year, it is impossible to ascertain the exact outturn. Any answers now would therefore, be at best, but a mere guess work, which may be correct or fallacious. By the time of my next report, I think I shall be able to make an estimate of the advantages of an irrigated Sarud paddy, under the transplanting method, by enquiries in regard to the luxuriant crop prepared by the Teligu, Wata Swamy at Loknathpore.

21. There is a general cry against the rate of annual leases, as too high, and its uniformity for all lands of different capabilities, as unfair. But as I understand the complaint is not based on a real understanding of the benefits of artificial irrigation, water and manure will render the lands, of present comparatively less power equally fertile with the best lands, and that the produce of an irrigated crop is nearly double of a non-irrigated crop.

22. In conclusion, I beg to inform you that, in addition to my present main duty, the collection of water rates, I have continued, and will continue, to devote as much time as I can allow, in consistency with the current office work, to inducing the people to make the best use they can of the water provided for them.

From G. W. BOOTHBY, Esq., Agent and Manager, East India Irrigation and Canal Company, to W. MACPHERSON, Esq., Collector of Cuttack,—(No. 226, dated Cuttack, the 16th November 1867.)

I HAVE the honor to acknowledge the receipt of your letter No. 629, with the documents specified therein; also extract from the Deputy Collector's Irrigation Report, No. 41 of 1st instant.

2. The Company's Superintendent of Irrigation, Mr. C. Roberts, will forward to the Deputy Collector at intervals of ten days, all the leases that are taken. In reply to the remarks in paragraph 4, I beg to observe that where the Company fail to give the water, all claim for water rate is at an end, and of course such sums should at once be struck off as unrealizable.

3. With reference to the Deputy Collector's remarks as to the spread of irrigation, I beg to hand you the copy of letters marginally specified, together with copies of the directions to ryots in English and in Ooria, the latter being now in course of distribution. And it might be well to forward these when received, to Commissioner, as shewing the efforts being made to instruct the agriculturists in the use of irrigation.

Irrigation letter No. 77, dated 19th October 1867, from Agent and Manager, to Baboo Woonachurn Haldar, Deputy Collector, with questions and answers.

Extract from letter from Agent and Manager, to J. P. H. Walker, Esq., Irrigation, No. 47.

From G. W. BOOTHBY, Esq., Agent and Manager, East Indian Irrigation and Canal Company, to BABOO WOOMA CHUN HALDAR, Deputy Collector, Irrigation Department,—(dated Cuttack, the 19th October 1867.)

I HAVE to thank you for your communication of the 2nd instant, No. 35, and have now the pleasure to send you the enclosed paper containing your queries and my answers.

2. You will perceive that the only questions on which, in my opinion, the ryots require information, are Nos. 6, 7, and 8. To these I have given a full reply, and if you would have the goodness to put my answers into Ooryah, I will have the information sent to the Irrigation Overseers to be circulated amongst the most influential ryots.

3. And I would call your attention to my remarks on the irrigation of cotton, which is a very profitable crop at the present high price of that article, a price which is likely to continue for some time.

4. Closely connected with the subject matter of your letter under reply, is the enclosed copy of correspondence as marginally specified, with Mr. Walker, the Executive Engineer in charge of the High Level Canal. I trust you will afford all the aid you can in carrying into effect the trial we propose to make, and I purpose endeavouring to continue the experiment through next year, and adopting a similar arrangement on the Kendraparah Canal.

Letter, dated 14th October, from Mr. Walker to Mr. Boothby.
Ditto, No. 47, from Mr. Boothby to Mr. Walker, with enclosures.

5. If we can so arrange as to induce an influential ryot on each canal to give a fair trial, beginning with April next, to the cultivation of two transplanted and irrigated crops on the same plot of ground, as described in my answers to your questions 6, 7, and 8, I feel sure that good results must follow. It is useless for the Company to attempt to carry out such a trial by their own servants, and I think that you are the best person to make the arrangements, the Company of course paying all expenses.

1. Land suitable for different crops.

On this point the ryots are best able to judge from local experience, indeed I consider that they are well informed regarding such matters.

2. Method of preparation of the land.

Ditto ditto ditto.

3. Manure when and how to be applied.

Ditto ditto ditto.

4. Time to be allowed to elapse between each crop, method of ploughing and preparing the land.

Ditto ditto ditto.

5. State the particular sort of rice that is suitable for irrigated crop, i. e. Dalooa seed not less than one year old.

All descriptions of rice are vastly benefited by irrigation, that is by regular waterings; the plants thus never being allowed to suffer injury from drought. As to which kinds of rice require most water, the ryots themselves are the best judges. Seed grain should never be less, I believe, than one year old, but the ryots need no instruction on this point.

6. State the times for sowing in seed beds and how to be planted, tended and manured.

Seed beds should be prepared early in April, by deep ploughing and plenty of manure, which latter is of the greatest consequence; the sowing should take place by the 15th or 20th April, waterings being regularly given as required.

7. Age at which the same should be transplanted.

The transplanting should take place when the rainy season sets in early in June, by which time the rice plants will be about eight inches high, and if seed beds have been well manured the plants will be very fine and strong.

8. Explain the different advantages of broad-cast and transplanted crops.

The difference of the two systems or methods may be compared to the difference between nursing and feeding a young child with every care and attention, and turning another child out of doors to feed itself. The transplanting method, as shewn above, necessitates from the commencement careful nursing of the seed and of the young plants, which are to be strengthened with plenty of manure, and never to be allowed to languish or become sickly for want of water, which, as every Indian farmer knows, is often the case with the broad-cast seed and plants; a period of dry weather often nearly killing them. Then the transplanted crop

9. Note the quantity of water and number of floodings to be given before ploughing. The period to elapse between ploughing and sowing.

10. The quantity of water in depth to be given to each crop after transplanted and sown.

11. The number of floodings to be given to each crop in order to bring it to maturity, and the intervals between each.

12. Note the different crops that can be raised with success by irrigation, and give the seasons for planting each. Rice of sorts, Bealtee and Dallooa, Cotton, Mandia, China Kullye, Wheat, Paguns, Indian corn, Pumpkins, Sugar-cane.

13. Explain the different advantages of irrigation by acre and by volume, and by occasional floodings.

14. Shew the probable out-turn of each crop, the cost of seed, manure and labor; and shew the probable profits to be gained by each.

gains fully two months' time, the plants being well grown when the rains begin, and by being continuously watered, as required, and never allowed to suffer from dry weather as the broadcast crop does, the grain may be cut with certainty in November to be followed by another transplanted crop of rice on the same ground in December, which crop will be ready to be cut in May. The yield per acre from rice, thus carefully cultivated, and always well watered when required, has been proved, by repeated experiments made by the Madras Government, to be fully double the yield of a crop under the broadcast method.

The ryots are quite as well able as any one else to answer questions 9, 10, 11 and 12. They know what crops require water and when to give the water, the difficulty hitherto being that they had no water to give. By a report sent herewith, it will be seen that the yield of cotton trees is trebled by plentiful waterings when the flowers appear.

The simplest and least troublesome method of supplying irrigation water is by volume, that is measuring the water only and not the land. And the full benefits of irrigation can never be obtained until the ryots use it throughout the year.

This must be left to the ryots to determine; every ryot knows that a well watered crop must yield highly and give a good profit.

(Sd) G. W. BOOTHBY;
Agent and Manager.

Extract from letter from G. W. Boothby, Esq., Agent and Manager, East India Irrigation and Canal Company, to J. P. H. Walker, Esq., Executive Engineer, in charge of High Level Canal Irrigation, No. 47, dated 15th October 1867.

I AM in receipt of your letter of yesterday, by which it is satisfactory to find that the Irrigation Overseer, Ramanjiah, exhibits such practical energy, with the view to the spread of irrigation.

2. I have much pleasure in sanctioning the Overseer's proposal "to try an experiment with a Dalooa crop on the High Level Canal." Nor, indeed, is the cultivation of this crop in rotation to the Bealtee to be regarded as an experiment. It is true, as you remark, that efforts in regard to the Dalooa crop on the Kendraparah Canal, were attended with indifferent results, or it might have been said, with utter failure in many cases; but on the other hand there were several instances of complete success. The one result being the consequence of using wholly unfit seed grain which had been gathered in an immature state, only a few months previously, and the other result being the natural consequence of taking the ordinary precautions necessary in agriculture. Moreover, in many cases on the Kendraparah Canal, the Dalooa was tried on very unsuitable soil, in fact on almost pure sand.

3. In regard to the details of the arrangements for the trial, we should, if possible, avoid taking and cultivating a plot of land ourselves; unless, indeed, the Overseer has such complete confidence in his practical knowledge of farming as to ensure success. Otherwise it will be very up-hill work to say nothing of the excessive cost. The laborers he employs will do nothing beyond what they are ordered to do, and not even that unless watched over by Chuprassees, Molavies, and such like.

4. The better plan by far would be to induce by a sufficiently large bonus, some experienced ryot to set aside one or two of his fields, and to cultivate the crop himself, we paying all expenses. This arrangement would also have the advantage of enlisting on our side all the villagers, whereas if a Tehogoo steps in to shew them how to cultivate, they would be only well pleased to witness a failure. In all respects it should be made worth the ryots, while to do his utmost to ensure success, and it would be well to select some central and well known village for the experiment. Of course the Dalooa should be sown on land off which the Bealtee crop has been cut this season, in order to prove the feasibility of the production of two full crops of rice; and such land should, if possible, be manured, at all events well ploughed; old roots and weeds being burnt.

5. It is very important in making this trial of the production of two crops of rice in one season from the same land, not to lose sight of the fact, which indeed is very obvious; that to give irrigation a fair trial it should be used not during half the season on one crop; but throughout the season and on both the crops. By this means not only do both crops come to maturity in a shorter period, but the yield is vastly increased, fully doubled in fact. And above all, it should be explained, that it is only by adopting the method of cultivation by seed beds well manured and transplanting, that the full advantages of irrigation can be obtained. For instance, a permanent supply of irrigation water enables the ryot to plough, manure and sow the seed beds six weeks or two months before the rains set in, viz., early in April, so that the seed plants may be sufficiently grown to be ready for transplanting when the monsoon bursts early in June; then throughout the rainy season the growth of the rice is never checked by long intermissions of dry weather, consequently the crop is ready to be harvested in all November, to be followed by another transplanted rice crop in all December, which is ready for the sickle in May: thus two full heavy rice crops are produced from the same ground in the year. And this during many years has been the invariable practice in the Godavery District.

6. The attention of the ryots should also be specially directed to the immense advantages which irrigation gives in cultivating cotton, the yield of which is more than doubled by plentiful watering when the flowers appear. On which subject I append an extract from a report made to the Commissioner of Nagpore, giving the result of an experiment of unusual waterings to a cotton crop by baling from a river. On the Kendraparah Canal the ryots are taking to cotton cultivation extensively, owing to the facilities afforded by irrigation. I append the Kendraparah Overseer's Report just come to hand on this subject, and it will be well to direct your Overseer's attention to this important matter.

Instructions to Ryots how to obtain the greatest advantage in the cultivation of Rice with a permanent supply of irrigation water.

SEED beds should be prepared early in April, by deep ploughing and plenty of manure, which latter is of the greatest consequence; the sowing should take place by the 15th or 20th April, waterings being regularly given as required.

2. The transplanting should take place when the rainy season sets in early in June, by which time the rice plants will be about 8 inches high; and if seed beds have been well manured, the plants will be very fine and strong.

3. The difference of the two systems or methods may be compared to the difference between nursing and feeding a young child with every care and attention, and turning another child out of doors to feed itself. The transplanting method, as shewn above, necessitates from the commencement careful nursing of the seed and of the young plants, which are to be strengthened with plenty of manure and never to be allowed to languish or become sickly for want of water, which, as every Indian farmer knows, is often the case with the broad-cast seed and plants, a period of dry weather often nearly killing them. Then the transplanted crop gains fully two months' time, the plants being well grown when the rains begin; and by being continuously watered, as required, and never allowed to suffer from dry weather as the broad cast crop does; the grain may be cut with certainty in November, to be followed by another transplanted crop of rice on the same ground in December, which crop will be ready to be cut in May. The yield per acre from rice thus carefully cultivated, and always well watered when required, has been proved by repeated experiments made by the Madras Government, to be fully double the yield of a crop under the broad cast method.

Instructions regarding the advantages of irrigating cotton trees.

"THE best cotton in Nagpore is grown upon and in the neighbourhood of the River Wurdah, and of the Wuma, a rivulet running southward into the Wurdah, and the quality deteriorates the further the cultivation withdraws from the influence of the moist soil adjacent to the river bank. I myself tried an experiment upon a field of little more than eight acres, the ploughing and sowing being conducted in the ordinary local fashion; but as soon as the flower made its appearance, I commenced watering every evening, obtaining the water from the river by coolies. Although my field was surrounded by others sowed with the same seed, my plants were nearly as big as currant bushes, produced at least three times the usual quantity of cotton, and the staple was equally fine but considerably longer; in fact, nearly as long as the best Sea Island Cotton, which fetches the highest price in the English market. The natives always look with great anxiety for the rain when the flower buds begin to open. Should the Madras Irrigation Company, therefore, extend its operations to the cotton fields of Berar and Nagpore, a very wonderful change and improvement in both the quantity and quality of Indian cotton may be expected."

Results of the Meteorological Observations taken at the Surveyor-General's Office, Calcutta, from 22nd to 31st January 1868.

MONTH.	Date.	Reduced Reading of Barometer at 10 A. M.	THERMOMETER.		Daily Range of the Temperature.	Mean Temperature for the Day.	Mean Wet Bulb.	Computed Mean Dew-point.	Mean Degree of humidity for the day.	Prevailing Direction of Wind during the day.	Rain.	Max. Pressure of Wind.	GENERAL REMARKS.
			Highest Reading.	Lowest Reading.									
		Inches.	°	°	°	°	°	°			Inches.	lb.	
Jan.	22nd	30.123	78.3	58.8	19.5	68.1	60.3	54.1	0.63	N	...	...	Clear.
	23rd	30.043	79.9	59.6	20.3	69.8	61.7	55.2	62	N	...	...	Clear and stratus.
	24th	30.071	79.0	63.0	16.0	70.9	62.6	58.0	51	N	...	...	Cirro cumuli and clear.
	25th	30.085	79.9	62.0	17.9	70.2	62.9	57.1	65	N	...	...	Clear and scattered cumuli.
	26th	30.128	78.0	62.5	15.5	70.2	62.5	56.3	63	N	...	...	Clear.
	27th	30.086	78.2	64.4	13.8	71.2	63.3	57.0	63	N	...	...	Chiefly cirro cumuli.
	28th	30.017	80.0	67.6	12.4	73.1	66.8	61.8	69	N W & N	...	...	Stratus, scattered cumuli and clear.
	29th	30.106	80.0	65.6	14.5	72.0	64.4	59.2	68	N	...	...	Scattered cumuli and clear.
	30th	30.091	80.0	62.5	17.5	70.3	61.9	55.2	61	N E & N N E	...	...	Clear and cirro cumuli.
	31st	30.070	69.7	62.0	7.7	65.0	60.5	50.8	62	N	0.05	...	Scattered cirro cumuli, stratus and overcast. Light rain at 6½ and 11 A. M. and at 1 P. M. Slightly foggy at 8 and 9 P. M.

The mean Temperature and the mean Wet Bulb are derived from the twenty-four hourly Observations made during the day.

The Dew-point is computed with the Greenwich constants. The figures in column ten represent the humidity of the air, the complete saturation of which being taken at unity. The receiver of the lower rain gauge is 1 foot 2 inches, and that of the Anemometer 70 feet 10 inches, above the level of the ground.

				°	
The extreme variation of Temperature during the past ten days				21.2	
The Max. Temperature during the past ten days				80.0	
The Max. Temperature during the corresponding period of the past year...				83.2	
The mean humidity during the past ten days				0.66	
The mean humidity during the corresponding period of the past year				0.68	
				Inches.	
The total fall of rain from 22nd to 31st...				{ by lower rain gauge	0.05
				{ by Anemometer gauge	0.02
Ditto	ditto	from 22nd to 31st, average of fourteen previous years			0.09
Ditto	ditto	between the 1st January and the 31st ultimo			0.05
Ditto	ditto	during the corresponding period of the past year			0.55

The 3rd February 1868.

GOPENNAUTH SEN,
In charge of the Observatory.

Meteorological Report up to 21st January 1868.

STATIONS.	January.	Hour.	Barometer reduced to 32°.	THERMOMETER.		Humidity Sat. ≈ 100 .	WIND.		Rain.	WEATHER.
				Dry.	Wet.		Direction.	Velocity.		
CALCUTTA.										
			Inches.	⊖	⊖				Inches.	
	15th	10	30.198	70	62	61	N	...	...	Clear.
		11	30.147	75	61	40	N W	...	...	Ditto.
	16th	10	30.164	70	62	61	N	...	...	Ditto.
		11	29.929	75	62	44	N	...	...	Ditto.
	17th	10	30.109	69	62	65	N	...	...	Ditto.
		11	29.951	76	62	44	N by W	...	...	Ditto.
	18th	10	30.033	70	60	62	N N W	...	...	Ditto.
		11	29.844	76	61	40	N	...	...	Scattered cirrocumuli to S.
	19th	10	30.126	70	60	52	N	...	...	Clear.
		11	29.981	76	65	52	N	...	...	Scattered cirrocumuli.
	20th	10	30.151	70	64	70	N	...	...	Clear.
		11	30.092	77	63	41	N	...	...	Ditto.
	21st	10	30.180	69	60	66	N E	...	...	Ditto.
		11	30.012	75	62	41	N N W	...	...	Ditto.
BANGOR ISLAND.										
	15th	9-30	30.133	67	61	60	N by E	Moderate	...	Light clouds.
		10	30.029	76	64	48	N	Moderate	...	Clear.
	16th	9-30	30.109	68	63	74	N W	Light	...	Ditto.
		10	29.173	76	68	61	W	Light	...	Ditto.
	17th	9-30	30.029	68	63	74	N by W	Light	...	Ditto.
		10	29.940	76	68	66	S W by W	Light	...	Ditto.
	18th	9-30	29.981	69	63	70	N E	Light	...	Ditto.
		10	29.039	76	67	60	S W	Light	...	Ditto.
	19th	9-30	30.038	69	64	74	N E by N	Light	...	Ditto.
		10	30.077	77	66	63	S	Light	...	Partially cloudy.
	20th	9-30	30.071	68	63	74	N E	Moderate	...	Hazy.
		10	30.005	78	69	61	N by W	Light	...	Scattered clouds.
	21st	9-30	30.081	68	60	60	N	Moderate	...	Clear.
		10	30.009	76	64	49	N	...	...	Ditto.
CHITTAGONG.										
	15th	9-30	30.027	67	61	64	N	Light	...	Hazy.
		10	29.934	71	67	80	S W by W	Light	...	Ditto.
	16th	9-30	30.007	67	61	84	N	Light	...	Ditto.
		10	29.884	71	66	75	S W by W	Light	...	Cumuli towards N. and E.
	17th	9-30	29.947	67	63	79	N by E	Light	...	Hazy.
		10	29.844	71	68	75	S W by W	Light	...	Ditto.
	18th	9-30	29.942	66	63	63	N	Light	...	Ditto.
		10	29.834	72	67	75	W	Light	...	Ditto.
	19th	9-30	29.977	67	64	84	N E	Light	...	Ditto.
		10	29.854	72	67	75	W by S	Light	...	Ditto.
	20th	9-30	30.018	70	64	70	N	Moderate	...	Ditto.
		10	29.904	72	68	60	W	Light	...	Ditto, scattered cumuli.
	21st	9-30	30.007	68	61	64	N by E	Light	...	Ditto.
		10	29.946	71	65	70	W	Light	...	Ditto.
AKYAB.										
	15th	9-30	30.083	72	60	65	N E	Light	...	Fine.
		10	29.967	78	72	73	W S W	Light	...	Ditto.
	16th	9-30	30.073	72	67	75	N E	Light	...	Cloudy.
		10	29.925	79	72	60	W	Light	...	Fine.
	17th	9-30	30.006	71	69	89	E	Light	...	Ditto.
		10	29.890	77	69	64	W	Light	...	Ditto.
	18th	9-30	29.999	70	68	89	N E	Light	...	Ditto.
		10	29.880	77	70	68	W	Light	...	Ditto.
	19th	9-30	30.019	70	68	80	N E	Light	...	Ditto.
		10	29.904	78	71	69	W	Light	...	Ditto.
	20th	9-30	30.028	71	68	85	N E	Light	...	Ditto.
		10	29.935	79	70	61	N W	Light	...	Ditto.
	21st	9-30	30.039	70	69	79	N E	Light	...	Ditto.
		10	29.917	78	72	73	W	Light	...	Ditto.
CUTTACK.										
	15th	9-30	30.228	72	62	58	N E by E	Moderate	...	Clear, misty horizon.
		10	30.112	76	63	41	N by W	Light	...	Scattered cirrostrati and cirri.
	16th	9-30	30.103	69	63	69	N by W	Light	...	Fine, clear sky.
		10	30.048	75	62	44	N N E	Light	...	Cloudless sky.
	17th	9-30	30.135	67	63	79	S W by S	Light	...	Hazy, clear sky.
		10	29.985	70	62	41	N by E	Light	...	Fine evening.
	18th	9-30	30.080	71	60	75	E	Light	...	Scattered cirrostrati to N. W horizon.
		10	29.985	75	67	63	S E	Light	...	Partially cloudy.
	19th	9-30	30.140	71	65	70	E	Light	...	Scattered cirrostrati and cirri.
		10	30.010	75	67	63	E by S	Light	...	Cumulostrati and cirrocumuli.
	20th	9-30	30.177	71	67	80	N E by N	Light	...	Ditto, cirrostrati & cloudy.
		10	30.012	76	67	60	E by N	Light	...	Scattered cirri & cirrocumuli.
	21st	9-30	30.154	72	63	68	E N E	Light	...	Fine, misty horizon.
		10	30.052	76	67	60	N by E	Light	...	Clear, ditto.
MADRAS.										
	15th	10	30.094	83	76	71	N E by E	17*	...	Passing clouds.
		11	29.974	79	76	62	N E by N	17*	...	Light clouds.
	16th	10	30.091	83	74	69	N E by N	17*	...	Passing clouds.
		11	29.648	79	71	69	N E by N	16*	...	Ditto.
	17th	10	30.005	83	72	60	N E by N	13*	...	Light clouds.
		11	29.907	80	73	66	N N E	16*	...	Fine.
	18th	10	30.019	82	71	65	N N W	7*	...	Ditto.
		11	29.991	80	71	62	E	9*	...	Ditto.
	19th	10	30.031	82	71	65	N E by E	12*	...	Ditto.
		11	29.919	81	71	69	E N E	10*	...	Ditto.
	20th	10	30.064	78	70	61	N N E	11*	...	Light clouds.
		11	29.937	81	72	63	N N E	15*	...	Ditto.
	21st	10	30.089	88	79	60	N E	12*	...	Passing clouds.
		11	29.951	81	79	62	N E	14*	...	Ditto.

STATION.	January.	Hour.	Barometer reduced to 32°.	THERMOMETER.		Humidity Sat. = 100.	WIND.		Rain.	REMARKS.
				Dry.	Wet.		Direction.	Velocity.		
			Inches.	°	°				Inches.	
NEWARK.	15th	10	29.007	59	56	81	N W	Light.	...	Cumuli, strat.
	16th	10	29.002	73	61	49	N W	Light.	...	Strati.
	17th	10	29.037	66	57	68	N E	Light.	...	Cumuli, strat.
	18th	10	29.076	71	58	40	N W	Light.	...	Cumuli.
	19th	10	29.050	65	59	68	S	...	...	Cumuli, strat.
	20th	10	29.091	68	62	69	N E	...	...	Cumuli.
	21st	10	29.076	72	62	53	N E	...	...	Cumuli, strat.
	22nd	10	29.091	63	69	77	N W	Moderate	...	Cumuli, strat.
	23rd	10	29.069	71	61	53	N E	Moderate	...	Cumuli, cumulostrati.
	24th	10	29.064	61	58	62	W	...	...
ROCKEY.	15th	0-30	29.278	59	53	64	N W	Light.	...	
	16th	0-30	29.201	69	56	39	S W	...	...
	17th	0-30	29.256	69	59	40	Calm	...	...
	18th	0-30	29.135	70	54	28	R W	...	...
	19th	0-30	29.139	59	55	76	S E	...	...
	20th	0-30	29.016	69	56	39	S E	...	...	Cloudy sky; at 10 P. M. light rain and slight rain.
	21st	0-30	29.107	59	54	70	S E	...	0.16	Heavy thunder storm from W. at 3-30 P. M. Hail for a few minutes and thin rain till 11 P. M.
	22nd	0-30	29.028	60	50	44	N W	...	...
	23rd	0-30	29.274	55	62	80	N W	...	2.84	Clear calm day.
	24th	0-30	29.185	64	57	67	W	...	...	Cloudy day; a few drops of rain at 6 & again at 8 P. M.
DARTFORD.	15th	0-30	29.322	51	53	93	S	...	...
	16th	0-30	29.101	57	65	87	N	...	...
	17th	0-30	29.242	55	53	80	Calm	...	...
	18th	0-30	29.072	60	55	73	S E	...	...
	19th	0-30	29.439	46	43	78	S E by E	Light	...	A few thin clouds.
	20th	0-30	29.355	52	41	29	S S W	Light	...	Cumuli round horizon.
	21st	0-30	29.407	46	40	54	E by S	Light	...	Cirrocumuli. Frosty morning.
	22nd	0-30	29.298	52	44	47	E	Light	...	Ditto . . . ditto.
	23rd	0-30	29.022	47	42	62	F S E	Light	...	Clear sky. Frosty morning.
	24th	0-30	29.246	44	42	83	N W by W	Light	...	Misty.
DARTFORD.	15th	0-30	29.338	44	42	83	E by S	Light	...	Ditto.
	16th	0-30	29.247	46	41	61	S S W	Light	...	Cirrocumuli.
	17th	0-30	29.332	44	37	65	Calm	...	...	Ditto.
	18th	0-30	29.253	47	41	56	S	Light	...	Scattered cumuli.
	19th	0-30	29.333	40	36	64	W by S	Light	...	Clear sky. Frosty morning.
	20th	0-30	29.280	48	43	63	W	Light	...	A few thin clouds.
	21st	0-30	29.302	41	40	91	S E	Light	...	Misty.
	22nd	0-30	29.268	47	43	69	S S W	Light	...	Ditto.
	23rd	0-30	29.054	68	62	69	N	Light	...	Clear.
	24th	0-30	29.023	72	63	58	N	Light	...	Ditto.
DARTFORD.	15th	0-30	29.013	84	63	74	N	Light	...	Ditto.
	16th	0-30	29.087	70	63	65	N	Light	...	Ditto.
	17th	0-30	29.054	68	64	70	N	Light	...	Ditto.
	18th	0-30	29.046	71	61	53	W	Light	...	Ditto.
	19th	0-30	29.044	68	61	79	W	Light	...	Ditto.
	20th	0-30	29.039	70	...	...	W	...	...	Calm and clear.
	21st	0-30	29.067	67	64	84	W	...	...	Ditto ditto.
	22nd	0-30	29.070	71	...	...	N N W	Light	...	Clear.
	23rd	0-30	29.013	68	64	79	W	Light	...	Ditto.
	24th	0-30	29.020	71	64	66	N N W	Light	...	Ditto.
FAIRFORD.	15th	0-30	30.014	68	62	69	N	Light	...	Ditto.
	16th	0-30	30.014	68	62	69	N	Light	...	Ditto.
	17th	0-30	30.014	68	62	69	N	Light	...	Ditto.
	18th	0-30	30.014	68	62	69	N	Light	...	Ditto.
	19th	0-30	30.014	68	62	69	N	Light	...	Ditto.
	20th	0-30	30.014	68	62	69	N	Light	...	Ditto.
	21st	0-30	30.014	68	62	69	N	Light	...	Ditto.
	22nd	0-30	30.014	68	62	69	N	Light	...	Ditto.
	23rd	0-30	30.014	68	62	69	N	Light	...	Ditto.
	24th	0-30	30.014	68	62	69	N	Light	...	Ditto.
FAIRFORD.	15th	0-30	30.083	72	67	75	N E	...	...	Light weather.
	16th	0-30	30.083	72	61	62	E N E	...	...	Moderate breeze.
	17th	0-30	30.081	69	65	79	N	...	...	Light weather and hazy.
	18th	0-30	30.083	72	68	80	E N E	...	...	Ditto ditto.
	19th	0-30	30.076	71	67	80	N E	...	...	Moderate breeze.
	20th	0-30	30.081	73	67	71	N E	...	...	Ditto weather and hazy.
	21st	0-30	30.113	72	67	75	N E	...	...	Fresh breeze & fine but hazy.
	22nd	0-30	30.108	71	67	80	N E by E	...	...	Moderate breezes.
	23rd	0-30	30.111	69	63	74	N E	...	...	Ditto ditto.
	24th	0-30	30.076	71	68	75	E by N	...	...	Light winds and fine.
FAIRFORD.	15th	0-30	30.033	72	65	86	N N E	...	...	Ditto weather.
	16th	0-30	30.033	72	65	86	N N E	...	...	Ditto ditto.
	17th	0-30	30.033	72	65	86	N N E	...	...	Ditto winds and fine.
FAIRFORD.	15th	0-30	30.053	72	68	80	N	...	...	Ditto ditto.
	16th	0-30	30.053	72	68	80	N	...	...	Ditto ditto.
	17th	0-30	30.053	72	68	80	N	...	...	Ditto ditto.
FAIRFORD.	15th	0-30	30.053	72	68	80	N	...	...	Ditto ditto.
	16th	0-30	30.053	72	68	80	N	...	...	Ditto ditto.
	17th	0-30	30.053	72	68	80	N	...	...	Ditto ditto.

BENGAL SECRETARIAT,
The 3rd February 1868.

HENRY F. BLANFORD,
Meteorological Reporter to Govt. of Bengal.



SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, FEBRUARY 12, 1868.

OFFICIAL PAPERS.

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Survey in Assam.

Resolution by the Government of Bengal,—(dated
Koonstera, the 30th September 1867.)

The small out-turn of the survey work done in Assam during the last two seasons, its excessive cost, and the reasons assigned for unsatisfactory progress in the correspondence which has passed for some time between the Government, the Board of Revenue, and the Surveyor-General, having satisfied the Lieutenant-Governor of the necessity of some material change in the survey arrangements, His Honor has given his full consideration to the subject during his visits to Cachar and Assam. The Assam Survey parties have to deal with two classes of work. In the jungle tracts, besides shewing on their Maps the topographical features of the country, they have to identify and shew the boundaries of the lots which have been granted under the old rules on rent-paying conditions, or which have been sold under the Waste Land Rules.

In the tracts which contain more cultivation they have to shew the boundaries of mouzahs and villages for revenue purposes.

Hitherto the system generally followed has been that the ground is first taken by a civil demarcation party under a Superintendent. It is the duty of this party to identify the boundaries of lots of waste land and of mouzahs; to decide all disputes, and to leave such marks along the boundary which is laid down as shall ensure its ready identification by the professional survey party which follows.

In consequence of the rapid growth of vegetation in Assam by which the marks were obliterated before the professional parties took up the ground, and from other causes, it is admitted that the system has not worked well.

In Bengal Proper, in which the land is to a great extent under cultivation, and in which

proprietary rights are divided between numerous land owners of whom each is naturally tenacious of his own, the necessity of a civil demarcation party to precede the Professional Surveyors in order to decide all disputes as to boundaries, so that the Surveyor may work without delay and impediment, is obvious.

But in Assam it is generally accepted that the case is different. The lots of waste land have been assigned on descriptions which give nothing more than a general idea of the boundaries. In the more cultivated tracts, the object, generally speaking, is not to identify and represent boundaries of mouzahs which have once been clearly defined, but to constitute mouzahs for revenue purposes by assigning to each definite boundaries which shall contain so much land as is convenient. Both in the case of lots of waste land and of mouzahs, the boundaries to be assigned have to be decided more or less roughly and arbitrarily. Such boundaries can be assigned as readily by the professional survey party as by a civil demarcation party; and with the view of simplicity and of securing the thorough efficiency of the operations, it is desirable that the entire process from first to last should be placed under the direct control of the Professional Revenue Surveyor. In a letter No. 342, dated 21st September, the Commissioner of Assam writes:—

“The demarcation parties have now demarcated Kamroop, Saebasangor, very nearly the whole of Nowgong, and a considerable portion of Luckimpore. I believe that this separate demarcation survey should have been dispensed with in Assam; no doubt there are estates of various kinds in Assam requiring demarcating, but they are nothing like in the same proportion, nor do they exhibit the same complexity which I am told obtains in Bengal, and I am convinced that they would have been best dealt with by the professional survey party demarcating them, which would have saved a great expense, if not waste of money.

I would now recommend the adoption of this course with what remains to be done, more particularly as the tracts remaining to be demarcated include a very large proportion of waste, and a very small proportion of lakhiraj or semi-lakhiraj land requiring demarcating. I may further state that I lately held a conference at Debronghur with the Professional Surveyor, Lieutenant Barron, the Superintendent of Surveys, Mr. L. B. B. King, and the Deputy Commissioner, Major Stewart, who has given very much attention to the same subject in Cachar, and we unanimously agreed that the separate demarcation parties under Mr. King might be safely broken up, and what there was of demarcating remaining to be done transferred to the professional survey, and I solicit it may be understood as a definite proposition that I recommend that this be now done.

"It has been found quite impossible in Assam to adjust the proper interval between the demarcating and the professional survey operations. There is often found so little to demarcate, and the demarcation survey thus gets so far ahead of the professional survey that the *thicks* or temporary landmarks left by the former for the guidance of the professional survey, disappear under the swiftly destructive influence of the climate of Assam with its rains and floods, before the latter can make use of them. Thus, even in Kamroop, where there was more demarcating work to perform than elsewhere, the professional survey is more than a year, and will probably soon be two years, behind the demarcation survey.

"The professional survey has, I understand, not yet broken ground on the south side of Kamroop, nor at all in Nowgong, but has pretty well finished with Soehsaugor, and has made some progress in Luckimpore. Darrung has neither been demarcated nor professionally surveyed.

"With reference to the 6th paragraph of the Government of India's letter, I understand it to be clearly the object of the present survey that it is to answer revenue purposes; and, so far as that it defines the areas of villages, within which the measurements for assessment have to be made by the mouzahdars, it answers the end proposed. I think, however, that there are large tracts in every district of permanent cultivation, where the Surveyor, in addition to his own scientific operations, might well carry on the khushrah measurement of land, and I would have the professional survey at once instructed that they are to show every species of land, (1) 'under cultivation,' (2) 'thrown out of cultivation,' (3) 'fit for cultivation,' (4) 'waste or jungle,' (5) 'sites of village and gardens.' They already show separately 'sites of villages,' 'waste or jungle,' and 'culturable land,' including in the latter 'land under and thrown out of cultivations,' and Lieutenant Butter, the Professional Surveyor of Kamroop, informs me, if I understand him rightly, that he could easily give the additional details I suggest, both for his past and for his future work."

Three days before the Commissioner wrote as above, a conference was held in Calcutta, at the request of the Lieutenant-Governor, between the Senior Member of the Board of Revenue and Major Macdonald, the Deputy Surveyor-General for the Lower Provinces, at which the Officiating Secretary to Government attended, and explained the views of the Lieutenant-Governor. The Senior Member of the Board and the Deputy Surveyor-General came to the same conclusion as

that at which the Commissioner of Assam has arrived, and the following arrangements were agreed upon:—

"On the Survey party proceeding to take up a portion of a District in which there are tracts of waste lands, within which grants and allotments have been made, the Deputy Commissioner of the District will furnish to the Revenue Surveyor lists of the grants and allotments, with such specification of their boundaries, on rough sketches, or otherwise, as his records can supply. The object of the Revenue Surveyor will then be to identify the boundaries furnished to him by the Deputy Commissioner as nearly as they are capable of identification on the spot, and to assign these as the boundaries of the different lots on his Survey Map.

"For the purpose of identifying these boundaries with the help of the grantees, &c., the Revenue Surveyor will send a small party ahead under an intelligent Officer, whose duty will also be to cut such lines as are necessary to enable the Surveyor, who follows him, to survey and lay down on his Map the boundaries so identified.

"If, in the course of tracing the boundary, the line cutting Officer should come upon a *disputed* portion of the boundary, he will merely cut such a line as may be required to enable the Surveyor to make his observation through the disputed plot from end to end; he will make no attempt to define the actual boundary. When the Surveyor reaches such a place, he will merely show his survey line in the Map, and no boundary, noting the remark 'boundary disputed; no off-sets taken.'

"Whenever the line cutting Officer comes upon such a disputed boundary, he will report it to the Revenue Surveyor, who will give immediate notice to the Deputy Commissioner, Deputy Collector, or other Civil Officer, to whom the decision of such disputes may have been assigned, sending at the same time a rough Map of the locality from which the place can be unmistakably identified. It will be the duty of the Revenue Officer at once to enquire into the merits of the disputes, and to give an award, if possible, before the survey party has left the neighbourhood. Immediate notice of the award should be sent to the Revenue Surveyor, with a Sketch Map shewing how the boundary has been settled; and then the Revenue Surveyor will cause his Map to be completed by sending an Officer to take the off-sets which were omitted along the disputed portion of boundary.

"According to this system the Civil Officer will have nothing to do with the executive part of the survey proceedings; he will simply decide a dispute when the existence of one is certified to him by the Revenue Surveyor.

"It will be distinctly understood that the mere existence of a *doubt* in identifying a boundary, which is described in the paper furnished by the Deputy Commissioner, will not make it necessary for the Revenue Surveyor to call in the aid of the Civil Officer; a doubt caused by a difference between the actual features of the country and those represented in the Deputy Commissioner's papers, can be disposed of as well by the Revenue Surveyor as by a Civil Officer; it is only when conflicting claims as to the direction of a boundary are advanced by different parties that the Civil Officer need be called upon to make a judgment.

cial enquiry and award, and this, it is believed, will occur very unfrequently."

With regard to the survey of the more cultivated tracts, it was agreed that the same system should be adopted; the Revenue Surveyor laying down the boundaries of mouzahs and villages as pointed out by the mouzahdars where they are clearly known; and where they are indefinite, assigning to each mouzah or village so much land as may be convenient.

Although the Revenue Surveyor and his Assistants will not exercise the power of judicially deciding boundary disputes, it is obvious that some of the powers of a Collector must be conferred on the Revenue Surveyor, and perhaps on some of his Assistants, to enable them to enforce the attendance before them of mouzahdars and others for the purpose of pointing out existing and known boundaries.

It will be for the Board of Revenue and the Deputy Surveyor-General in communication, to report to Government what power should be conferred on the different Officers of each survey party.

It will further be necessary that these authorities should together draw up a set of Rules for the guidance of Officers in carrying out the survey of Assam and Cachar under this system. The rules so prepared will supersede the corresponding portion of the Survey Rules which now exist. It is desirable that these Rules should be drawn up with the least possible delay by the Board and the Deputy Surveyor-General in personal consultation, rather than that the preparation of them should be left to the Commissioner of Assam, who is not within reach of any high authority of the Professional Survey Department. The Rules should be submitted as soon as practicable for the approval of the Lieutenant-Governor, who will, if necessary, consult the Commissioner as to any modifications which local considerations may render advisable. The strictest injunctions should be given to the Deputy Commissioners to secure the boundaries by the requisite number of permanent marks as soon as they are laid down by the survey. In the case of purchased waste lands, Section 5, Article I. of the Board's Waste Land Rules, reserves full power to the Deputy Commissioner to erect these at the expense of the purchaser, should the purchaser fail to put them up himself when called upon to do so. In other cases the pillars must be erected at the expense of Government. The Lieutenant-Governor will rely on the Commissioner to enforce the erection of these marks before the close of the season in which the survey is made.

The above system being adopted, the civil demarcation parties in Assam may be broken up at once, as such parties will not be required elsewhere for some time. The Board will report the measures taken, the names of the Officers who will thus become available for other duty, and the amount which will be saved out of the Budget Estimates of the current year.

The Deputy Surveyor-General should also report, as soon as possible, on the additions to the Professional Establishments which will be necessary during the coming field seasons, and their estimated cost.

If the Surveyor-General should be of opinion that a portion of the cost of a survey conducted on these principles ought to be charged to the Revenue Department, rather than to the Pro-

fessional Survey Department, the Lieutenant-Governor will be prepared to consider his proposals as to the proportion of the cost of which the Professional Survey should be so relieved. During the current financial year sums will be available to the extent of the saving in the Civil Department, which may be caused by the breaking up of the demarcation parties.

The Lieutenant-Governor has considered the recommendation which has been made by the Board, and which is repeated in paragraphs 7 and 8 of their letter No. 3807A., dated 20th September, that all attempt to fix and survey the boundaries of assigned lots of waste land should be abandoned, but His Honor is unable to adopt the recommendation; even if entire lots or portions of lots be hereafter abandoned, the boundaries once shown on the Survey Maps will be useful as marking off convenient blocks, with reference to which future applications may be made for assignments of waste land.

ORDERED, that a copy of this Resolution be forwarded to the Board of Revenue, Lower Provinces, for information and guidance, and with a request that the required Rules may be framed and submitted with the least possible delay.

Ordered also, that a copy be forwarded to the Deputy Surveyor-General for information and guidance.

From T. B. LANE, Esq., Secretary to the Board of Revenue, Lower Provinces, to the Secretary to the Government of Bengal. — (No. 3982A., dated Fort William, the 9th October 1867.)

I AM directed to acknowledge the receipt of the Government Resolution dated 30th September, and in reply to express the Board's belief that survey operations in Assam will, under the modifications of prescribed Rules therein sanctioned, progress far more satisfactorily than they have hitherto done.

2. The Board have, in personal conference with the Deputy Surveyor-General, agreed to the few plain Rules which he has drawn up for the guidance of his Surveyors, and which he has since submitted, as directed in the Resolution, for the approval of Government. It will be advisable, as the Resolution contemplates, that the Commissioner should have an opportunity of commenting on these Rules, and should be required to instruct Civil Officers in accordance with them.

3. It will be sufficient for the purposes of paragraphs 13 and 14 of the Resolution, if the Surveyors and their Head Assistants be empowered as Deputy Collectors.

From COLONEL HENRY HOPKINSON, Commissioner of Assam, to the Secretary to the Government of Bengal. — (No. 459, dated Gowhatty, the 23rd November 1867.)

I HAVE the honor to acknowledge the receipt of your letter No. 3881, dated 29th ultimo, forwarding draft of Rules for the Survey in Assam, and requesting the expression of my opinion on the same.

2. Lieutenant Butter, Revenue Surveyor, and I have met and discussed the draft Rules *seriatim*, and I beg to transmit herewith a note that he has drawn up about them, embodying the results of our conference so far as they are at all in modification of the views held by the Board, and to add that they have my exact concurrence.

3. The draft Rules are herewith returned.

Memorandum on Draft of Rules for the Survey in Assam.

With reference to paragraph 13, I beg to submit for the consideration of the Commissioner of Assam—

1. That, at all events, in Kamroop, masonry platforms are unsuitable. I have communicated with the Executive Engineer, Lower Assam, on the subject frequently, and he has told me that the cost would be enormous, which is evident enough to those who know that every atom of material would have to be carried at heavy cost from Gowhatty, and that workmen charge extravagantly for going into the District.

2. That it would be perhaps in every way preferable to substitute hollow cast iron pillars as land marks, round which earth might be built up in the form of a cone from a circular ditch round them. The pillar might be sunk two feet in the ground, and stand a yard high above the surface. Independently of the obligation of the mouzahdar or other person concerned to protect such pillars, they ought to last well.

3. That, although the tri-boundaries of mouzabs (pergunnahs) should certainly be thus permanently marked, it is surely unnecessary to erect such pillars at tri-junctions of all villages, owing to the nature of land tenure in Assam; and on account of the cost to which Government will be put for mouzah tri-junctions; this is worth consideration. As the chief object of these pillars would be to serve as definite points of departure for persons hereafter using the professional maps, it might be sufficient to erect pillars here and there, within a mouzah, at certain village tri-junctions at discretion; such pillars to be all duly noted in the survey maps.

4. And, lastly, that the boundaries which chiefly want permanent definition are wholly passed over in the proposed rules, *viz.*, those of lakhiraj grants, which being patches within villages have no tri-junctions with other boundaries at all, and have hitherto not been recognized by the Revenue Survey. I venture to suggest that lakhirajdars should be directed to erect permanent marks of the description eventually prescribed for the district at certain suitable salient points of their boundary; the maximum distance between any two marks, except where the intervening boundary is natural and obvious, to be fixed (perhaps at 500 yards).

* See memorandum from Commissioner of Assam, No. 480, dated 5th December 1867.

A. D. BUTTER, Lieut.,
Asst. Revenue Surveyor,

In Charge, first Division, L. P. R. S.

GOWHATTY,
21st November 1867.

Draft of Rules for the Survey in Assam.

1. The Survey will show the topographical features only of those parts of the province which consist of unallotted waste lands.

2. Where allotments have been made the Survey will show the boundaries between the different lots and grants.

3. In the more cultivated tracts, it will show the boundaries of mouzabs, khats, estates, and all similar Revenue Divisions.

4. No civil demarcation party will precede the professional party in the field; each profes-

sional party will ascertain the boundaries of mouzabs, estates, and grants for itself. About a month before commencing his operations for the season, the professional Surveyor will communicate his intentions to the Deputy Commissioner of the District, requesting that Officer to make the fact generally known by proclamation in the tract about to be surveyed, and to issue an explanatory notice of the objects of the survey. The Deputy Commissioner will be responsible that all mouzahdars and holders of land are made aware that they are bound to be in attendance when the survey officials commence work on their lands.

5. The Revenue Surveyor will be vested with the powers of a Collector which are ordinarily exercised by a Civil Superintendent of Survey; and the powers of a Deputy Collector under Regulation IX. of 1833, will be conferred on one or more of the Assistant Surveyors, if necessary. These powers will enable them authoritatively to require the attendance of parties; to call on them to point out boundaries; to enforce compliance with their requisitions under the provisions of Act XX. of 1848; and to lay down doubtful boundaries.

6. Before the Revenue Surveyor takes the field the Deputy Commissioner will furnish him with a list of all mouzabs, khats, estates, and grants, within the limits of the District, or area to be surveyed, of which the Surveyor is required to show the boundaries on his maps. Opposite the number and name of each mouzah, khat, estate, and grant, will be entered the name of the mouzahdar, proprietor, or grantee, and in accordance with these lists, the Surveyor will issue summonses for the attendance of those whom he requires.

7. The Deputy Commissioner shall call on all mouzahdars, khatdars, holders of estates, and grantees, to put up temporary marks at every turn of the boundary between mouzabs, khats, estates, and grants, where the boundary can readily be identified and is admitted. The Surveyors will follow the boundary as indicated by these marks unless it be disputed.

8. Wherever, from difficulty in tracing a boundary through jungle, the mouzahdar, khatdar, holder of an estate, or grantee, has omitted to put up marks and cannot point out the exact boundary, the Surveyor will show the boundary on his map by a straight line from one trijunction point to the next trijunction point, and this line will be recognised as the boundary between the mouzabs, khats, estates or grants, as the case may be, until some other boundary be prescribed under the provisions of the law.

9. The Surveyor will report to the Deputy Commissioner each case in which he or his Assistants who are vested with the powers of a Deputy Collector may inflict a fine under Act XX. of 1848, and the Deputy Commissioner will be responsible that the fines are realized.

10. A register of all fines so inflicted will be submitted monthly by the Deputy Commissioner to the Commissioner of Assam for his information.

11. Although the powers which will be conferred on the Revenue Surveyor and some of his Assistants would enable them to adjudicate in cases of disputed boundary, it is to be understood that they are not to exercise this power. When disputes occur in regard to boundary lines

between two or more land-owners or grantees, or between a mouzahdar and a land-owner or grantee, the Survey Officer shall leave so much of the boundary as is disputed, unrepresented in his field book and map, and shall — once report the existence of the dispute to the Deputy Commissioner or other Civil Officer who may be appointed to dispose of such cases. A rough drawing showing the direction of the disputed boundary, (as claimed by each party) shall be submitted by the Surveyor with his report. It will be the duty of the Deputy Commissioner to make such arrangements as will ensure the decision of such disputes *before the close of the field season*. Immediate intimation of the decision shall be given to the Revenue Surveyor, who will then enter the boundary as decided in his field book and map.

12. Under the law an appeal will lie to the Revenue Surveyor in his capacity of Collector from orders passed by his Assistants in the capacity of Deputy Collectors, and an appeal will lie to the Commissioner from orders passed by the Surveyor in his capacity of Collector; but the Surveyor's proceedings in laying down straight boundaries should be upheld in cases where no marks had been placed to guide the Surveyor from one village or grant to the next, and where at the time of survey the mouzahdars, khatdars, holders of estates, or grantees, were not present to point out the boundary lines. In such cases, the Commissioner in appeal should, as a general rule, refuse to interfere with the determination of the Surveyor, which will still be open to question in the Civil Courts. But if in any case the parties are bound by a special clause in their title deeds to accept the decision of the Collector or Deputy Commissioner of the District or of the Revenue Authorities — final, it will be necessary that the particular authority who is indicated should enter into the case and decide it on its merits.

13. The Surveyors shall leave on the ground temporary marks indicating the trijunction of the boundaries of mouzahs, estates, khats and similar revenue divisions. The District Officers will be responsible that all such points are secured before the end of the field season by solid masonry platforms four feet square, one foot below the surface and one foot above the surface, by cast-iron pillars or by similar durable boundary marks. Such marks shall also be put up at convenient distances to define the boundaries of lakhiraj grants. A register of all points secured by boundary marks shall be prepared by the District Officer and copy furnished to the Commissioner of Assam after countersignature by the Revenue Surveyor.

14. The state of the platforms, pillars, or the boundary marks shall be reported on monthly by the mouzahdars, and the District Officer will be responsible that they are kept up.

H. L. DAMPIER,
Offg. Secy. to the Govt. of Bengal.

Re-Settlement and Increase of Revenue in Assam.

From S. C. BATES, Esq., Officiating Junior Secretary to the Government of Bengal, to the Secretary to the Board of Revenue, Lower Provinces, — (No. 1135, dated Fort William, the 6th March 1866 7.)

Is forwarding to you the accompanying copy of a letter, No. 173, dated the 14th June 1865, from the Agent, Governor General, and Com-

missioner of Assam, reporting as to the extent to which the revenues of Assam may be revised on re-settlement, the Lieutenant-Governor desires me to say that the subject has been under his consideration for some time, in connection with other questions, and that now he desires that the Board will be so good as to submit a report as to the expediency of raising the present rates of assessment in Assam.

From LIEUTENANT-COLONEL H. HOPKINSON, Agent to the Governor General and Commissioner of Assam, to the Secretary to the Government of Bengal, — (No. 173, dated the 14th June 1865.)

I HAVE the honor to acknowledge the receipt of your letter No. 3520, dated 17th ultimo, forwarding copy of a letter to your address from the Government of India in the Foreign Department, communicating the remarks of His Excellency the Governor General in Council on the explanation submitted in my letter No. 52, dated the 28th March last, relative to the neglect of the old roads in Assam, and requesting me to report in detail on the periods remaining of the existing settlements in each district, and as to the extent to which, in my opinion, the revenue of the province may be revised on re-settlement, and also to what extent an increase in the assessment is likely to render the labour of the districts more available for employment on the public works.

2. In reply I beg to state that revision of assessments can be undertaken at the end of the current financial year notwithstanding existing settlements. The principle of an Assam settlement is, that it is made with the rent collector and not the rent payers. The ryot can resign his holding whenever he likes, even during the term of settlement, so that he cannot object to a revision of the rate of assessment at any time that it may please Government to make it. With respect to the rent collector with whom the settlement is made, as he is paid by a commission on collections, it would be a direct gain to him if the rates of assessment were raised.

3. The above circumstances, it will be perceived, afford every facility for raising the land revenue in Assam; such a measure to be successful and effected without creating confusion should be carried out simultaneously throughout each district. For if revision is made only in each pergunnah as its present settlement lapses, there will be a general exodus of the ryots from it into the nearest pergunnah when the settlement has not lapsed, thereby creating a direct loss of revenue to Government. In fact, revision of assessments when made should be carried out throughout the whole province at the same time, for the confusion which I have anticipated, should revision be made in a desultory manner in the pergunnahs of a district, will occur to a less but still to a very inconvenient degree, should the rates be raised in some districts of the province and not in others.

4. I am of opinion that sufficient grounds do not exist to make any distinction in regard to the rates of assessment to be fixed for the different districts of Assam. It has been urged on previous occasions, when the question of raising the land tax of the Province was mooted, that Kamroop in Lower Assam can bear a higher rate of assessment than the districts higher up, because from its position Kamroop is nearer the great marts of Bengal where its produce can be disposed of. It is now, however, unquestionable that in some respects as regards agricultural produce, the best mart of the upper districts are in the districts

themselves where the producer can always command a higher price on the spot for his produce than the people of Kamroop can by taking theirs to the marts of Bengal. For instance, while the rice dealer of Kamroop can send his grain down to Serajgunge and dispose of it there at Rupees 1-4 or Rupees 1-8 a maund, the cultivator at Sebsaugor, who is excluded by distance from the Serajgunge market, can get Rupees 2 a maund on the spot, so in the case of sugar and oil-seed and oil, the profit the Kamroop people can make by exporting their goor or mustard-seed is hardly equal to what the people in the tea planting districts realize by local sales. The tea plantations tend to equalise the produce markets. In regard to fertility of soil, I cannot discover either that any district of Assam has any decided and essential advantage over any other which could be made the basis of a discriminative assessment.

5. The following memorandum will show at a glance the rates now current in the districts of Assam, as also those which I would recommend should be introduced. Gawalparah being permanently settled is not included in this scheme :—

	RATES NOW IN FORCE PER BEEGAH.		PROPOSED RATES PER BEEGAH.				
	Roopt or low paddy land.	Other lands.	Barter or Homestead and garden lands.	Roopt or low paddy land.	Feringuttee or high lands for crops, &c.		
	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.		
Kamroop ...	0 6 0	0 4 0	1 0 0	0 10 0	0 8 0		
Darrang ...	0 5 6	0 4 6	1 0 0	0 10 0	0 8 0		
Newgong ...	0 5 6	0 4 6	1 0 0	0 10 0	0 8 0		
Sebsaugor ...	0 5 0	0 4 0	1 0 0	0 10 0	0 8 0		
Lackimpore.	0 5 0	0 4 0	1 0 0	0 10 0	0 8 0		

6. It will be observed that instead of having two rates of assessment only, as now in force, I propose having three.

7. The first kind, homestead and garden lands, I think can bear a higher rate of assessment than any other land, as on it is cultivated betel-nut and other fruit trees from which the ryots derive large annual profits. I may mention that from a single betel-nut tree when at maturity Rupees 2 and Rupees 3 worth of betel-nut can be obtained in one year, which always commands a ready sale on the spot, and on a single beegah of land several hundreds of these trees can be reared. The yield from jack and mango trees is also proportionally large. It is evident therefore that homestead and garden lands should have a separate rate of assessment for itself, and that it should be higher than any other rate. I would recommend that it be fixed at 1 Rupee per beegah.

8. The second description of land called Roopt, on which the great paddy crop is produced, has always borne hitherto the highest rate of assessment. The only advantage which it has over the third description of land is that it does not require any labour for clearing away jungle, and can therefore be easily brought under cultivation, the paddy crop being grown on it during the rains. The season when jungle springs up on other

lands, I propose that the rate of assessment on this description of land should be ten (10) annas per beegah.

9. The third description of land is termed Feringuttee in the nomenclature of native settlement; it includes ohur lands, as also all high lands of other kinds not fit for wet paddy cultivation. Lands taken up for tea come under this designation; it yields to the ryot but one crop: in the cold weather if paddy is grown on it the return is less than that from land on which paddy is grown in the rains, and the grain is red and coarse and does not fetch so high a price as other grain. Crops of greater value, such as mustard seed and several sorts of pulses can also be produced on this kind of land, but the cost of bringing it under cultivation is always comparatively heavy, for it is allowed to remain fallow during the rains, and when required again in the cold weather, it is generally covered with dense vegetation which requires considerable expense to be removed. I propose therefore that this description of land should bear the lowest rate of assessment, viz., 8 annas per beegah.

10. The financial results of the increase of rate of assessments which I have recommended cannot be ascertained with accuracy until the additional classification I have suggested is made, but on a rough estimate from the records of settlements in this Office, I am of opinion that the land revenue of the province will be increased by about 1 and $\frac{1}{2}$ over what it is at present, that is to say, if we take the land revenue of Assam as it stands now in round numbers at 10½ lakhs of rupees, the increase will be about 14 lakhs, or a total of 24½ lakhs of rupees.

11. I am confident that the people of Assam can well bear to pay still higher rates of land revenue than those which I have proposed, but for the present I am averse to recommending any very large increase over existing rates.

12. As a proof of the prosperous state of the Assamese and the amount they can afford to expend on a single luxury, I may mention that in 1863-64 the quantity of opium sold in the province was 1,924 maunds, yielding a gross revenue of Rupees 11,35,462.

In 1864-65 the price of opium was raised from Rupees 14 to Rupees 20 per seer, but instead of this acting as any check on consumption, the quantity sold during the year was 1,939 maunds, the receipts from which were Rupees 14,35,426, or about 4 lakhs of rupees in excess of the land revenue of the province.

13. It has been urged that the large extent of unreclaimed waste land in the provinces is a very sensible evil in inducing migratory habits in the people, and that the natural consequence of an increase of assessments would be to cause the ryots to give up their holdings and seek for support in the reclamation of jungles.

14. As these jungle lands, however, when reclaimed, will be liable, under existing rules, to the same rates of assessment as on other lands, the ryots will derive no advantage but a good deal of loss and inconvenience by resorting to such an expedient, nor do I think they will do so to any extent likely to prejudice the land revenue.

15. Another difficulty which it is anticipated may arise by an increase of assessment is that planters and others, who have now secured title of waste land under the auction and grant rules,

may endeavour to attract ryots to settle on their lands by offering them easier terms than they can obtain from Government.

16. I have no doubt but that in a few exceptional cases planters may be able to induce a few ryots to remove to their land from Government holdings, but I do not think that they will succeed in doing so to any great extent, as the ryots always prefer to receive a title for their land direct from the Government than from planters, to whom all improvements they may make on the land will belong, and by whom they may be made to work on the tea gardens, and in case of refusal summarily ejected from their homes.

17. Besides, land taken up for tea cultivation is not at all adapted to settle ryots on; they require low paddy lands for the growth of their staple crop, and such land, I need hardly say, is never taken up by tea planters.

18. But even if it were believed that by an increase of the present rates of assessment planters would be able to farm out to ryots every acre of the 400,000 acres of land, which in round numbers they have purchased in fee simple or taken up in grant (and I hold this to be not only improbable but also utterly impossible), yet the land revenue of the province would not be affected to any very great extent, and it would still considerably exceed what it is now.

19. I am, however, of opinion that no movement of the kind to any appreciable degree will take place on the part of the ryots, and that the security they enjoy by holding their lands direct from Government will induce them to keep on their present holdings and to pay willingly an assessment which, although exceeding what they have been accustomed to, will yet press but lightly on them.

20. A very great increase of vigilance will, however, be required from district officers in dealing with applications for waste lands, as I think it not unlikely that lands specially suited for settling ryots on, or the growth of their principal crops may now be applied for under the auction rules; in all such cases the Deputy Commissioner should use the discretion given him by law to raise the upset price so as to protect the interest of Government.

21. I beg to add that in submitting this report, I have perused carefully the opinions of district officers recorded in 1860, when the subject of raising the land tax of Assam was being discussed, but I have not considered it necessary to call for any further expression of opinions now from Deputy Commissioners, as they are almost all of them new to their districts, and some have been scarcely a year in the province, so that their opinion would be of little practical value.

22. With reference to your enquiry as to the extent which an increase of assessments would induce labourers to take service in the public works, I beg to state that it will be impossible to give any information even approximately correct on the subject. There will no doubt be increased industry on the part of the people caused by the increase of assessments; and the Public Works Department, by proper management on the part of its officers, may expect to obtain a fair portion of this industry, should it take the shape of an increased desire on the part of the people to hire themselves out for wages.

23. But I would beg to be understood that I do not anticipate an increase in the land assess-

ment in order to cause the agricultural population or any portion of it to become labourers, or to drive the industry of the country into any particular channel, such as working for the Department of Public Works; to do so would be to act in opposition to sound policy and justice. The reasons which made me recommend an increase of assessment have already been detailed in my previous letters on the subject, and need not be again adverted to here.

24. In referring to the 2nd paragraph of your letter under acknowledgment, I beg to state that I have called for a return of old roads from district officers, but I think it impossible for the Public Works Department to estimate for putting them into repair, as labour for the work is not procurable, and any attempt to procure it would force up existing rates.

From T. B. LAMR, Esq., Secretary to the Board of Revenue, Lower Provinces, to the Secretary to the Government of Bengal, (No. 151B., dated the 10th January 1867.)

Mr. F. A. GOODENOUGH, of the firm of Messrs. Mackillop, Stewart, and Company, and Mr. H. L. Jenkins, Manager of the Docking Company in Assam, applied lately to the Deputy Commissioner of Secheaugor for a perpetual lease of Mouzabs Jaipore and Kaligograh in that District; but the Commissioner, Colonel Hopkinson, declined to sanction the lease, on the ground "that the Rules and Regulations governing the fiscal administration of Assam do not admit of an arrangement of the nature proposed."

2. On the matter being referred to the Board by Mr. Goodenough, they called on the Commissioner for an exposition of his views on the subject, drawing his attention to the 37th paragraph of Mr. Mills' Report on Assam, in which farming settlements for twenty years with the Mouzahdars were recommended.

Copy of the Commissioner's replies, and of his letter of 1862, referred to in one of them, are annexed for the perusal of the Lieutenant-Governor. From these it will be seen that the Commissioner is entirely opposed to settlements of any long duration; that he views with disfavor the introduction of Europeans as Mouzahdars into the province, and that he strongly inclines to ryotwara annual settlements of the simplest and purest character.

3. The Board do not agree with the Commissioner, and they desire me to solicit the decision of Government on the general question of creating a body of landed proprietors in the Province, should opportunity offer. In their opinion the policy advocated by Mr. Mills should be followed. That gentleman, after a careful consideration of the whole subject, wrote—"I feel assured that it is bootless to rely on the exertions of the ryots alone for extension of cultivation even in a limited degree. It is admitted that they should cultivate more than they do, and in some parts they do not raise sufficient for their own consumption. A ryotwara annual settlement is, no doubt, acceptable to the ryots, and though I was once a great admirer of khas management when liberally administered and efficiently supervised, yet I know from long experience that this supervision is seldom, if ever, attained,

"while I hold it is quite impossible for Government, throughout a large province like this, to deal directly with every cultivator. Annual settlements have been tried repeatedly, and I believe that from the causes above stated they have never been found to answer." Under these considerations he recommended that settlements should be made of Mouzabs for twenty years, with power to the Commissioner to reduce the term in the case of lands not ripe for longer period of settlement; that the number of Mouzabs should be reduced by absorption of entire Mouzabs until the gross revenue amounted to Rupees 3,000; that the Mouzahdar should be selected from the most respectable men of the Pergunnah, and should be bound, as far as practicable, to reside in his Mouzah; that on the expiration of the settlement the lands after measurement should be resettled with the Mouzahdar or his heirs; that the Mouzahdar should be remunerated with a commission not exceeding 20 per cent.; that the right of making grants of large tracts of forest within the boundaries of the Mouzah should be reserved to Government; that the Mouzahdar should be liable to dismissal for gross mismanagement of his charge, proved on formal proceedings to the satisfaction of the Commissioner; that the fisheries in large rivers, and the right to wash for gold, should be farmed to the best advantage, the bheeds being incorporated with the Mouzah to which they appertain, and included in the assessment; that the farmers and Mouzahdars should be allowed to make their own arrangements with the fishermen; and that the lands tilled by migratory cultivators should be fixed on the aggregate, the Mouzahdar being permitted to make his own arrangement with those who break up the lands.

4. The Board do not consider, as argued by the Commissioner, that a non-resident proprietor or farmer is unable to discharge properly the local duties of a Mouzahdar. A village functionary, salaried, or paid as now by commission by a farmer instead of by Government, would be, in so far as they can see, an efficient substitute for the Mouzahdar. They are in favor of farming out villages, or groups of villages, after detailed settlement of them for the protection, if any be necessary, of ryots with rights of occupancy, or, as the Commissioner styles them, peasant proprietors. The Board do not look with apprehension on the consequences of Government farmers establishing undue local influence, or on their thus securing a supply of labor on their tea and other enterprises; their interest will be in the direction of attracting settlers to their villages and of extending clearances, and the law, if efficiently administered, should be sufficient to check abuse of the influence acquired from their position.

5. It appears probable that the necessity for determining on what terms a proprietary title shall be conveyed to farmers, and others may force itself on the consideration of Government in the course of the next few years. But in the meantime the Board are of opinion that a class of landed proprietors should be created in Assam, by the assignment of leases for long periods, to be eventually converted into permanent holdings.

6. On learning the decision of Government on the objections raised by the Commissioner, the Board will, if necessary, make a special reference regarding Mr. Goodenough's application. The villages for which he has applied appear to be of an enormous area, of which a very large proportion is waste.

From COLONEL H. HOPKINSON, Commissioner of Assam, &c., &c., to the Secretary to the Board of Revenue, Lower Provinces, (No. 97, dated the 14th June 1866.)

I HAVE the honor to acknowledge the receipt of your letter to my address No. 398B, dated 31st May 1866, enquiring, with reference to my letter No. 8A. of the 23rd, and its annexures, my reasons in detail for differing from Mr. Mills, who in the 37th paragraph of his Report on Assam recommended farming settlements for twenty years with the Mouzahdars of the Province of Assam.

2. In reply I beg respectfully to point out that the views expressed in my letter in question affect no difference of opinion from Mr. Mills. I might show that they rather accord with than diverge from that gentleman's recommendations; but in truth they raise quite a different issue from that proposed by the paragraph to which you refer me, viz., the inexpediency of introducing the perpetual settlement into Assam, Mr. Goodenough's application, both direct to the Board and through Mr. Jenkins, being for a perpetual settlement of the Mouzabs of Jyepore and Kaligogra.

3. Upon one point, however, it will be convenient to me to express my unqualified concurrence with Mr. Mills, namely, as to the obligation of Mouzahdars to reside in their Mouzabs, provided for under the third modification expressed in paragraph No. 37; whether a settlement be made for twenty years or for any shorter period, the residence of a Mouzahdar within his Mouzah cannot be too strictly insisted on. A Mouzahdar must be regarded, and must regard himself, not merely as a revenue farmer, but as a public servant; he has some duties to perform which are not wholly fiscal, and which cannot be performed vicariously.

4. The disqualification by non-residence would alone be considered by me an insuperable objection to the settlement of a Mouzah with Mr. Jenkins or Mr. Goodenough, even if the period were limited for twenty years.

5. But I have also other objections to a settlement with Mr. Goodenough. Mr. Mills proposed a settlement of twenty years, because he thought it would advance the general improvement of the province and its people, and, above all things, extend rice cultivation; the settlement desired by Mr. Goodenough would not, I think, contribute to this result.

6. Mr. Goodenough and Mr. Jenkins are associated in petroleum speculations, in coal speculations, and in tea speculations at Jyepore and its vicinity, and side by side with these interests the extension of rice cultivation would not, I imagine, engross any considerable share of their attention.

7. On the contrary, the object these gentlemen have in view is more likely to be the control over the cultivators and the power of diverting their labour to the speculations I have named, which they hope to obtain if Jyepore and Kaligogra were settled with them.

8. Khowang, in which the Dehing Tea Company's Gardens are situated, and which adjoins Jyepore, might, in like manner, be settled with Mr. Goodenough when next it fell vacant; and, as Mouzahdar of the three Pergunnahs, Mr. Goodenough ought not only to be able to have every ryot in them completely at his mercy, but be able to keep out any competition for the coal or petroleum workings.

9. I see nothing injurious to Mr. Goodenough in imputing these motives to him. It is not necessary to assume even that his judgment is

warped by self-interest. There are not a few able and impartial thinkers who would view with approbation any scheme which had for its object the reduction of a number of petty peasant proprietors to the status of day laborers, working at the command of capital. Informed by superior intelligence, I myself, however, incline to the opposite side on this moot-question, and am sometimes led to doubt whether there is one remove from the condition of the Indian agricultural laborer under a European Master to that of a serf or even of a slave.

10. I may add that I have been more than once asked by a Tea Planter to appoint him a Mouzahdar in the unconcealed view to the power which his position would confer on him to make the ryots work in his Tea garden, and in pursuance of the same design the Planters are now beginning to buy up the fisheries and ferries.

11. In conclusion, might I be permitted to remind the Board, that even though I err in preferring annual to Mr. Mills' twenty years' settlements, this would be hardly the time to make any of the latter, while a project for the enhancement of the land assessment is under the consideration of the Government, and when, therefore, it is most desirable that their action should be left as unfettered as possible by any long agreements. It would appear very partial were Mr. Goodenough to obtain a long settlement of a couple of Mouzahs at present rates, and immediately after an order of the Government to increase the land tax were to appear.

12. I find I have yet to add that I have called upon the Deputy Commissioner of Luckimpore and Seebangor to furnish the particulars called for at the end of the Board's letter, in regard to the population and cultivated and uncultivated acres of the Mouzahs applied for by Mr. Jenkins.

From COLONEL H. HOPKINSON, Commissioner of Assam, to the Secretary to the Board of Revenue, Lower Provinces,—(No. 150, dated the 9th July 1866.)

Lest I should not have been sufficiently explicit in my letter to the Board No. 97 of the 14th ultimo, in answer to theirs, No. 398 of the 31st May, enquiring, with reference to an application from Mr. F. A. Goodenough for a perpetual settlement in his favor of Mouzah Jyepore, what my reasons were in detail for differing from Mr. Mills in his report on Assam, I have caused a copy of my letter to the Board No. 173A. of the 21st February 1862, in which the whole question is discussed, to be made; and I have herewith the honor to re-submit it for the consideration of the Board.

2. But it is only one of very many letters which I have addressed to the Board during the past fifteen years, in which the same views are expressed. Four years have elapsed since the letter, of which I herewith send a copy, was written, and it still exactly represents my opinion, though in feebler terms than I should employ now.

3. Let me refer to the 5th and concluding paragraph of my letter to the Board, No. 215 of the 14th April 1862. It seems to me that signs are not wanting that the re-action which I then prophesied in favor of ryotwarree tenure, has already set in. A late speech of the Right Hon'ble the Under-Secretary of State for India, from his place in Parliament, was little favorable to the principles of a perpetual settlement, and I notice that Mr. Stansfeld referred with approbation to the opinions expressed by the very authority,

Mr. Cassels, at the Meeting at Manchester a few months ago, whose remarks on the land tenure assessment of Bombay I mentioned in the paragraph above cited that I had read with so much feeling of agreement.

4. I sincerely wish that I had less reason than I believe I have to question the advantages either of a perpetual settlement or of such a settlement as that recommended by Mr. Mills, on the strength of his experience in Cuttack. The present state of distress in Bengal is a sad commentary upon the opinion of those persons who, when the North-Western Provinces were wasted by famine, relied so confidently upon the exemption of Bengal from a similar calamity in virtue of the "Perpetual Settlement." On the other hand Cuttack has not been saved from a deplorable fate by a thirty years' settlement, and we may be thankful that the Assam ryot is not now altogether "on the same footing with the cultivator of Cuttack," as Mr. Mills desired to place him.

5. But even Mr. Mills professed himself a great admirer of khass management; only he questioned the possibility of efficient supervision, which the experience gained in the administration of British Burmah has now placed beyond doubt.

From MAJOR H. HOPKINSON, Commissioner of Assam, to the Secretary to the Board of Revenue, Lower Provinces.—(No. 173A, dated the 21st February 1862.)

I HAVE the honor to acknowledge the receipt of your memorandum No. 766 of the 22nd November 1861, forwarding Government orders in respect to which I am desired to report upon the expediency of a permanent settlement for the Province of Assam, or if not a permanent settlement, for a settlement for a long term of years; the enquiry being suggested by the discussion of the question of fixing permanently the public demand on the land, in paragraphs 62 to 82 of Colonel Baird Smith's report on the Famine District.

2. The state of the Upper Provinces is so different from the state of Assam that no conclusion can, I think, be drawn from the value of a permanent settlement in the former as to what it would be in the latter.

3. Colonel Baird Smith's report suggests to me the idea of a land tax or tax upon rents originally fixed at a rate exorbitantly high and calculated to impoverish the people, but now by the influx and consequent depreciation in the value of money, gradually falling to a moderate level; and Colonel Smith, as I read the report, desires to make it impossible that this fall should be arrested. In Assam the land tax is upon the profits of cultivation not upon rent; and has never absorbed more than a moderate portion of the people's profits.

4. Colonel Baird Smith is dealing with a country depending for its cultivation upon artificial irrigation, and this circumstance runs like a web through all his arguments, even in the eleventh paragraph, to which my attention is particularly drawn,—canal action is still the topic. In Assam artificial irrigation is unknown.

5. Sir George Couper, writing lately to the Officiating Secretary to the Sudder Board of Revenue in the North-West Provinces, pointed out that wages in them depended upon custom and not upon competition, but a country where this is the case must needs require a very peculiar system

of taxation. Again, the nature of the land tenures by the village communities in the Upper Provinces might determine the expediency of introducing the permanent settlement there, and furnish reasons of the strongest kind in its favor, but which would be wanting, where society was differently constituted, and where the administration was free to levy tax on the produce of land in the simplest possible way and without reference to tenures of any kind.

6. I think then that Colonel Baird Smith's report should be placed on one side in considering the expediency of a perpetual settlement for Assam, and I know of no source elsewhere where I could find argument in its favor.

7. I have not much faith in the efficacy or otherwise of systems of Land Revenue as systems. The people may be over-assessed under any system, and it seems to me that it has been always very much the case to confound the system with the assessment; no system has been more abused, and for that matter more praised than ryotwar management. In some parts of the Madras Presidency it has been stated that it ground the people to the dust; in British Burmah they prosper under it, but in the one case the demand was 40, 50, there were instances of 70 per cent. on the produce, while in the other case it seldom rises to 20 per cent., and is often not more than 10 or 12 per cent.

8. It is evident that Colonel Baird Smith's objections to the settlement in the Upper Provinces are really to the rates imposed under them; and the perpetual settlement would probably not find the favor it does in Bengal, but that is a perpetual settlement of a moderate assessment. In Assam, where the population mainly consists of peasant proprietors or cultivators, each man cultivating on his own account, a land tax assessed to each cultivator on the area of his cultivation is substantially an Income Tax. So long as it is kept within just and moderate limits, it will press as lightly upon the people, to say the least in its favor, as an Income Tax; it will no more check cultivation than an Income Tax will check trade, and there is no more reason for making a perpetual settlement of it with some third party, middleman, farmer, zemindar, or whatever he may be called, between the state and its subjects than there is for so settling the Income Tax under Act XXXII.

9. I believe that everywhere else as in Assam, where the Government demand upon land has taken the shape of a moderate land tax, it has not unduly trench'd upon the resources of the people nor impeded the accumulation of capital; but where it has been exacted as a rent at rates approaching the highest assessment, cultivators would pay rather than forego cultivation, and which left the mass of the population little more than a bare subsistence, impoverishment, and distress have naturally resulted.

10. I confess I am sceptical as to the share the perpetual settlement has had in producing the superior degree of prosperity enjoyed by Bengal, as contrasted with the condition of the Upper Provinces. I think that the natural advantages of Bengal would suffice to account for even a greater difference; Bengal finds no advantage in the possession of a permanent settlement over the Burmese Provinces or over Assam; Chittagong under the perpetual settlement has not thriven as the adjoining District of Akyab has done under

Khass management, nor here in Assam do we find that the Regulation District of Gowalpara at a settlement of only Rupees 14,000 makes more rapid strides in prosperity than the Non-Regulation District of Kamroop, which lies next to it, and which yields a Land Revenue of upwards of three lakhs and a half. In fact the extension of cultivation has been much less rapid in Gowalpara than in Kamroop. But I shall be told that no one claims for the perpetual settlement that its benefits outweigh the advantages that superiority of soil or position confer on a District or Province, even under very defective revenue arrangement; to which I answer that there is no better reason for supposing it more powerful the other way to compensate for inferiority of soil and position.

11. What I should chiefly value the perpetual settlement in Bengal, for, is that it superseded the system of farming the revenues, which I regard as the worst of all systems. The position of the ryots under ryotwar management, properly conducted, ought to be as superior to that of ryots under the zemindaree system, as that of the serfs of the Czar was to serfs of proprietors, but the position of the ryots, whose taxes were farmed, when "the farmers were always and every where tyrants, and tyrannised upon system," must have been lamentable.

12. I might recommend a perpetual settlement for Assam, if I thought that the existing Government demand upon land in Assam was so high as not only to require a guarantee that it should not be any further increased, but also a provision for its gradual reduction by the progressive depreciation in the value of money, and the rise in the value of land and produce; or again, I might recommend a perpetual settlement, if I thought the land tax was a bad tax altogether for Assam, and that any increase of taxation should take some other direction. But these are not my opinions. On the contrary I hold a land tax on the ryotwar principle to be the most expedient way of raising a revenue in this Province, and that, from time to time, it should be enhanced as the money value of the proportion of the produce of the soil, of which it is in theory assumed to be the equivalent increased; or, as the price of labor of which it is also assumed to be an equivalent increased. I also look to the enhancement of the land tax as a means of obtaining re-productive works, the increase being re-disbursed among the people, from whom it is taken in the shape of wages for their labor on the work.

13. A consideration of the fluctuating value of money, or rather of the progressive fall in its

Marginal Note.

This raises a most interesting question as to how the capacity to bear increased taxation is determined by increased expenditure on the part of Government on labor, also the duty of a Government in backward states of society to effect, by the compulsory aid of the people, improvements which they themselves would be the first to undertake if they were in a more forward state.

value, in a country emerging from barbarism under the guidance of a civilized Government, has led me to conclude that where a permanent settlement is adopted, it ought to fix not an amount in money, but an amount in produce in the principal food staple, to be paid for at what may be ascertained to be an average rate during certain periods. Thus, I would assess an estate in perpetuity for so many hundred maunds of paddy, rated for the next ten years at the average value of paddy for the last ten years.

14. However, I do not wish to see a perpetual settlement either in this or in any other shape in Assam; there must be an increasing demand for expenditure in the Province, and if this should have to be provided for by any increase of local taxation, an addition to the land tax will be the least offensive way of making it; I deeply regret that such a view was not allowed to prevail against the extension of Act XXXII. (Income Tax Act) to Assam. The Province would be no gainer by a bargain that gave it a perpetual settlement and Income Tax, in exchange for its ryotwaree system; a Government which introduced the Income Tax might be expected to favor Khass management in a country where all the people are cultivators; for them, as I have said before, a land tax resolves itself into an Income Tax, but is far easier of ascertainment, far easier to collect, much less repugnant to the people, and much less inquisitorial on the part of Government and subjecting the former to much less exaction, and the latter to much less fraud.

15. Lastly, supposing the expediency of a permanent settlement for Assam were conceded, with whom is the settlement to be made? There are no zemindars, independent talookdars, and other actual proprietors of land in Assam, in the regulation sense of these terms; but the Government is the only actual proprietor of land, subject to the reservation of the right of the ryot or actual cultivator of the soil, whatever they are under the feudal system introduced by the Ahoms, who commenced their conquest of the valley about the beginning of the thirteenth century, "not only the soil, but the subject was the property of the State, the ryot could not dispose of his cultivated land by sale, gift, or even by mortgage, and, though, under us, he has been permitted to alienate it, yet when the local authorities urged that this right should be legally conveyed to him, the Government refused their assent: on this point, they now probably entertain different views, but I imagine that even the recognition of each petty cultivator as the actual proprietor of the soil would not make the conclusion of a permanent settlement with him practicable.

16. Passing next from the consideration of a perpetual settlement to the question of settlements for terms of years, I beg to state that, if by this is meant the leasing of Mehals to farmers of revenue for terms of years, I think the plan a thoroughly bad one; it has been already adopted in Kamroop, where certain Districts have been settled with farmers for periods extending to ten years, and, so far as I can judge, with unsatisfactory results. Such settlements appear to give the Collector far more trouble, to be less beneficial to the State, more exacting and oppressive for the people than the Burmese ryotwaree settlements; Burmese revenue officials are too often negligent and profligate, and, where they dare, oppressive; but from all I hear, there are few Burmese Thoogyees so bad as an average Kamroop Chowdry, who farms a Mouzah or Pergunnah on a ten years' settlement. The Haileybury Professor

of Political Economy* traces the perpetual settlement to the experiment of farming the revenues. This he says brought matters to a crisis, and I see plainly enough that on a smaller scale a similar crisis is preparing in Kamroop. Of the three parties concerned, the Mouzahdar or

Chowdry, the European head of the District, and the ryot, the first may be assumed to be always working towards bringing about such a change, all his aspirations are for the position of the Bengalee zemindar, and that he may be transmuted into a direct landlord of the ryot. The Deputy Commissioner* again finds the Chowdry a Tehsildar and a Zemindar, both in one, and that he has got a man to deal with, who in his relations to himself and to the ryots, gives him more trouble than the first, and is as irresponsible and independent as the second; as to the ryot, he cannot be worse off than under a farmer, and will acquiesce therefore in any change.

17. The interests of the farmer or ijaradar are not identified with the ryots as those of the Zemindar are, nor is he concerned to forward the interests of the Government as the Burmese Thoogyee is. What we want for the management of such a country as Assam is the employment, in the interior of the country, of native officials who, besides being principally Sub-Collectors of Revenue, shall also more or less exercise powers and represent the Government in every Department, the judicial possibly excepted, and who, beyond being liable for the payment of their revenue kists, shall be held mainly responsible for the peace and well-being of the Circles or Districts of which they have charge: who shall be removable or transferable, and the boundaries of whose jurisdictions shall be enlarged or reduced at pleasure; all this the Thoogyee or Tehsildar is, or may be, but the Chowdry or farmer is not. Some years ago I was instructed to attempt the letting out the fiscal divisions of the country in farms or ijarahs for terms of years in the Tenasserim Provinces, but circumstances prevented the experiment being carried, and from what I have now seen of the working of the plan in Kamroop, I am glad that it was so.

18. I would wish to restore to Kamroop, and to enforce throughout Assam, a Ryotwaree Annual Settlement of the simplest and purest character, and to the exclusion or absorption of all other taxes, the excise excepted; with similar machinery such a tax might be collected and recovered as duties under the Income Tax are, without bringing at all in question the rights of parties connected with the soil. I think the Government should in all cases collect their own taxes, and not farm them, and that their demand for Land Revenue in Assam can, at any rate, be more satisfactorily collected directly than in any other way.

From MAJOR H. HORTON, Commissioner of Assam, to the Secretary to the Board of Revenue, Lower Provinces, (No. 215, dated the 14th April 1862.)

SINCE the despatch of my letter to you, No. 178 of the 21st February last, on the question of the extension of the Perpetual Settlement to Assam, I have often regretted that I did not think of noticing the opinion of Anundoram Phookun about it.

2. Anundoram Phookun was an Assamese, what Rammohun Roy was as a Bengalee, and looking to his opportunities and difference between Assam and Bengal, he must be regarded as even a more extraordinary man.

3. His opinion is peculiarly valuable as that of an educated Native gentleman who had had ample opportunities of making himself acquainted with the working of the Perpetual Settlement and yet who could be trusted to give an impartial

opinion upon it, not being a Bengal Zemindar himself. This same Anundoram Phookun could see clearly enough the evils of the Perpetual Settlement, but was blind to the greater ones of the *ijarah* system under which he or his family held farms.

4. This is what Anundoram says then—

"To grant to the proprietors and cultivators of lands the means of effecting general improvements in agriculture by increasing the number of reservoirs, embankments, &c., whereby drought, inundation, and other calamities of the season could be provided against, appear to have been (as explained in the preamble to Regulation II. of 1793) 'the primary objects' of the British Government in fixing the Land Revenue of Bengal and other Provinces in perpetuity, and in declaring the proprietary rights of the landholders. Ever since the introduction of the Perpetual Settlement the zemindars have, in the majority of instances, enjoyed as their private and exclusive profit from three to ten times the amount of the public assessment imposed on their estates; and in many instances much more. But the experience of more than half a century has evinced that the 'primary objects' of the Government in creating zemindars have not been attained, and that they remain yet to be fulfilled. We are aware of no one instance in which the zemindars of Bengal have made any fair use of their vast and princely income. The art of agriculture at the present day stands in their estates nearly in the same rude state as it was several centuries back.

"The creation of reservoirs, aqueducts, canals, embankments, roads, or other extensive works for the advancement of agriculture and commerce, are seldom or nowhere to be met with in any part of Bengal, and we cannot forbear observing that in the zemindars immediately bordering on the Province of Assam, there is scarcely a single road fit for foot passage, although the proprietors have, for their private income, more than twenty or thirty times the amount of the public assessment. No further argument, therefore, appears necessary to prove that the Perpetual Settlement has only served to place a few zemindars in indolent ease at the expense of the population. It has afforded them means to administer to their individual pleasures; it has enabled them to entertain hosts of indolent retainers; to vest themselves with awful powers over their helpless ryots; and lastly, it has been the sole cause of those sanguinary private wars, way and club fights, which are so often carried on in all Bengal with impunity and in spite of all law. Results similar to these must also ensue from the introduction of a Perpetual Settlement into Assam. Had the Government even one-fourth of the present income of the zemindars at its disposal, to be laid out in the improvement of the country, Bengal would certainly have opened a different aspect by this time. We, therefore, sincerely hope that the Government will bless Assam with a system which, while it will lay the foundation for progressive improvements by holding out reasonable encouragement to the persons entrusted with the management of lands, may obviate the mischiefs of a Permanent Settlement similar to the one introduced into Bengal."

5. If there is one change of opinion on which we may confidently reckon before many years are over, it is that of a re-action in favor of ryotwari

tenure, and I hope that when this good time comes the Government may not be prevented by any other engagement from taking advantage of it.

* P. 333 Land Tenure Assessment.

in Assam. I have read with much feeling of agreement what Mr. W. R. Cassel writes, in his Report on Cotton Culture* in the Bombay Presidency, of the recent Resolution of the Governor General of India in regard to the sale of Waste Lands, and I would earnestly commend it to the Board's attention.

From S. C. BAYLEY, Esq., (Officiating Secretary to the Government of Bengal, to the Secretary to the Board of Revenue, Lower Provinces,—(No. 1674, dated Fort William, the 26th April 1867.)

Your letter No. 151B., dated the 10th January last, and its enclosure, having been duly considered by the Lieutenant-Governor, I am desired in reply to state that His Honor agrees with the Commissioner of Assam in thinking it inexpedient to grant a perpetual or even a long lease of any Mouzah in the Province in which the land is already occupied by ryots, or to create rights intermediate between the ryot and the Government, which have at present no existence.

2. However desirable it may be to encourage the settlement of Europeans in the Province, and to dispose of the waste lands on terms which may act as an inducement to them to expend capital on its clearance and cultivation, and on the development of its agricultural and mineral capabilities, it certainly would not, the Lieutenant-Governor thinks, be expedient to invest them with the duties and responsibilities of Mouzahdars, a class of officers whose business, as the Commissioner justly observes, is not wholly fiscal, and a great part of whose functions not only cannot be performed vicariously, but are of a subordinate executive nature such as no large landed proprietor, whether he be an absentee or not, and least of all an European absentee proprietor, could satisfactorily or indeed possibly perform.

3. To create "a body of landed proprietors" in the sense apparently intended by the Board, "by the assignment of leases for long periods to be eventually converted into permanent holdings, simply on a theoretical view of the advantages which may be supposed to arise from the existence of large properties, and the possession of territorial influence by these owners, would be a course which, supposing it to be strictly just to the ryots who now cultivate the lands and hold them by a right of occupancy, on condition of paying rent at rates determinable only by the State, and practically fixed for long periods, is hardly justified by the experience of the permanent settlement in Bengal, and is certainly not calculated to answer any useful practical purpose in such a Province as Assam.

4. Where the agriculture of a country is in an advanced state, and where its improvement is likely to be brought about by a system of high farming on a large scale worked by a body of skilled and intelligent capitalists, it is, I am to observe, of course very desirable that, within certain limits, the lands should be held by large proprietors; and the grant of waste lands on long leases or in fee simple, in tracts not exceeding 3,000 acres in extent, is calculated to give this system a fair trial in India wherever it can be applied with advantage.

5. But where the soil is held by cultivators having a right to occupy it on payment of rent to the Government, it does not appear to the Lieutenant-Governor that any useful object is gained by interposing between the Government and the ryot, a proprietor or farmer, whose sole business in that capacity is to collect the rents from the ryots and make what profit he can out of the rent after satisfying the Government demand.

6. It is in every way a preferable course to give the actual occupant of the soil, whether he be an European Tea Planter holding on lease an estate which he has reclaimed from jungle and which may comprise some thousand acres, or a ryot cultivating a few acres of rice or garden land, as secure and certain a tenure as can be conferred upon him, subject to the payment of revenue to the Government at rates fixed for long periods, and to preserve a clear distinction between the rights and obligations of proprietorship and the duties of fiscal and official administration.

7. When Mr. Mills proposed that the settlements with the Mouzahdars, instead of being for short periods, should be for twenty years, he does not appear to have intended that any rights of proprietorship should be conferred on this class of Officers. On the contrary, it was part of his plan that the Mouzahdars, though ordinarily hereditary, should still be liable to dismissal by the Commissioner for gross mismanagement.

8. The Board have already been desired to report on the Commissioner's proposal for a revision of the present rates of rent throughout Assam, and this matter should be pressed forward without reference to any possible or probable changes of system: but the progress of the survey now demands that the whole question of the settlement and revenue system of Assam should be taken up and settled on clear and well defined principles, and the Board are requested to give the subject their early consideration, and to report, for the information and orders of the Government, the course which, in their opinion, ought to be taken with that view.

9. It will probably seem advisable to the Board that the revision should be undertaken district by district, a beginning being made with Kamroop, where the demarcation of Mouzahs has been completed and where the professional survey has made the greatest progress. The information contained in Mr. Mills's report, which did not profess to present more than the result of a cursory inspection of the Province, undertaken with the view of indicating points for further enquiry, though extremely valuable as far as it goes, is not sufficient to enable the Government to arrive at a satisfactory conclusion on any of the points involved in a proper revision of the existing mode of settlement, and the establishment of a revenue and administrative system on a sound basis; and it appears to the Lieutenant-Governor that the only effectual way of obtaining the necessary data is to depute a special Officer to enquire into and report fully upon the whole subject. Neither the Commissioner nor the District Officer has time to devote to this important duty; but they will, of course, be able to render the special Settlement Officer valuable assistance, in the way both of information and of advice, in the prosecution of his enquiry.

10. The main principles upon which, in the opinion of the Lieutenant-Governor,—subject of course to further and full consideration, and the

approval of the Government of India,—the revenue system of Assam should be based, are:—

1st.—That settlements should not be made with the Mouzahdars, but that these should be regarded simply as administrative Officers charged with the collection of the revenue, and with such other executive functions as may be assigned to them. It may be convenient, in order to avoid confusion, that they should be called Tehsildars.

2nd.—That the Tehsildars should not be hereditary, and that they should be removable for misconduct or incapacity by the Commissioner.

3rd.—That the Mouzahs should be so arranged and combined as to divide the district into convenient territorial sections with reference to area and revenue, so that each Tehsildar should receive a remuneration sufficient for his services, and that the extent of his duty should be as much as an officer in that position may be expected to perform.

4th.—That the Tehsildars should be bound in all cases to reside within the limits of their jurisdictions.

5th.—That the settlement should be made with resident ryots and at rates determinable from time to time by the Government, and for such periods as may be thought expedient, and that, subject to the payment of such rents, the tenure of every ryot should be hereditary and transferable, and that the same rule should be applied to all ryots and others holding lands on cultivation leases subject to the express conditions of the lease.

6th.—That all grants of waste land in fee simple and all large leases should be included for administrative purposes within the limits of a Tehsildaree, but that in the case of leases, it should be optional with the holder to pay his revenue either to the Tehsildar or direct to the Collector.

7th.—That the settlement of *chapaover* lands and of all lands occupied by non-resident ryots or newly brought into cultivation should be made annually by the Tehsildar on the result of actual measurement; and that every facility should be given to the occupation of such lands (wherever possible) by resident ryots with transferable and hereditary rights.

8th.—That the ryots of each village, or cluster of villages, should be required to appoint a head man to assist the Tehsildar in collecting the rents and pointing out lands newly brought into cultivation, and to be responsible for reporting crime and apprehending offenders, and for furnishing all information that may be required of him.

11. With these remarks the Lieutenant-Governor desires me to commend this important subject to the Board's careful attention, and to request that a full expression of their views may be communicated to the Government as soon as possible.

No. 1675.

Copy of this correspondence forwarded to the Government of India, in the Home Department, for information, with reference to the Secretary Mr. E. C. Bayley's letter No. 1527, dated the 31st August 1865.

From T. B. LANE, Esq., Secretary to the Board of Revenue, Lower Provinces, to the Officiating Secretary to the Government of Bengal.—(No. 3219B., dated Fort William, the 18th June 1867.)

I AM directed to acknowledge the receipt of Government Orders Nos. 1135 and 1674, dated respectively the 8th March and 28th April last, the former calling for a report from the Board on the proposal of the Commissioner of Assam to revise the present rates of assessment throughout the province, and the latter desiring a full expression of the Board's views on the subject of the revision of the existing mode of settlement, and the establishment of a proper system of revenue administration in that province.

2. The question of raising the land assessment of Assam was last specially considered by the Board in 1861. In May of that year Major Hopkinson proposed that the "land tax" should be doubled, and the increased revenue so obtained be spent in works of public utility. In July the Board reported on this proposal, having already considered it in connection with a report which they had received from Colonel Jenkins, the late Commissioner.

3. Generally the land was treated of in two classes: "Roopit" or rice lands, and "other lands." With regard to Roopit lands the District Officers had all recommended an increase; in Durrung and Nowgong from Rupee 1-6 to Rupee 1-8 per *poorah*, or 9 per cent.; in Sebsaugor and Luckimpore from Rupee 1-4 to Rupee 1-8, or 20 per cent.; the rate in Kamroop remaining at its existing figure of Rupee 1-8 per *poorah*. The Board, however, agreed with the late Commissioner in recommending that the rates for Roopit lands should not be raised. These lands, already taxed higher than "other lands," required more care and labor, and were more exposed to risk from bad seasons and inundations. It was at the same time of great importance to encourage the rice crop as much as possible; and the migratory habits of the population, arising from the facilities for taking up new lands for cultivation, rendered it, in the Board's opinion, altogether inexpedient that the rate on Roopit lands should be increased. In this view Government finally agreed.

4. In regard to "other lands" the Board entirely agreed with the District Officers and the late Commissioner that the rates might be raised in Nowgong and Durrung from Rupee 1 to 1-2, or about 12 per cent., in Sebsaugor from 14 annas to Rupee 1, or about 14 per cent, and in Luckimpore from 12 annas to Rupee 1, or about 33 per cent., more valuable crops, the price of which had also latterly greatly risen, being grown on these "other lands." More than this the Board were not then prepared to recommend, in view of the recent stoppage of Opium cultivation, and "the existing and prospective impost of assessed taxes." Under Government Order No. 356A., dated the 9th September 1861, this proposed increase in the assessment of "other lands" was accordingly sanctioned.

5. The Board estimated the probable increase of revenue from the higher rates of "other lands" to be Rupees 40,000, but, on referring to the results of the succeeding years, it seems impossible to ascertain, without special reference to the district authorities, the effect of the measure then proposed by them.

6. It will be seen from the annexed Statement that in 1861-62, the year in which the order for

augmenting the rates of assessment was made, there was an increase of Rupees 60,000, which could hardly have been caused by that order, but must have been derived from new cultivation. In 1862-63, there was an increase of only Rupees 13,000, in 1863-64 of Rupees 46,000 more, Rupees 64,000 over 1861-62, and in 1864-65, a further increase of Rupees 13,000, or Rupees 77,000 over 1861-62.

7. In 1864-65 orders were issued for a change in the manner of making up the Assam Land Revenue Accounts, and this resulted in an increase of Rupees 1,75,000 in the nominal gross revenue in 1865-66, as explained in the Board's Annual Report for that year. In addition to this amount however, there was an increase of about Rupees 55,000 in 1865-66.

8. In his present report Colonel Hopkinson has fully entered into the question. He first combats the position taken by his predecessor with regard to difference of rates in each district of the Division, repeating now the objection which was then raised by the District Officers that the lighter assessment of one district would probably draw away the ryots of the heavier assessed neighbouring district. The objection must have been probably tested after the increase of assessment in 1861-62, but there is nothing before the Board to shew whether the District Officers were right in taking this ground. If Colonel Hopkinson's figures in his 4th paragraph are accurate, there is now no reason for making any difference in the rates of assessment by districts.

9. In naming the rates which he proposes, Colonel Hopkinson adds a third denomination of land which has long been known in Bengal Settlements, and which, as Assam cultivation and population extend, must become as distinctive there. A separate and highest rate may fairly be demanded for "homestead and garden" lands, and Rupee 1 per *beegah*, as here recommended, equal to Rupees 3 per *poorah*, would not be too high.

10. For Roopit land a rate of 10 annas per *beegah*, or Rupee 1-14 per *poorah*, is now proposed, being an increase of 50 per cent. in Sebsaugor and Luckimpore, about 36 per cent. in Nowgong and Durrung, and 25 per cent. in Kamroop. The Board notice, however, that Colonel Hopkinson does not refer, in his present report, to any of the objections made in 1861 to the increase of 'Roopit' rates. He only argues generally that in its increased state of prosperity, the Province will bear fairly an increased assessment. The necessity for securing a large supply of rice was the principal reason formerly adduced for not increasing the rates on Roopit. But this appears to be no longer a tenable argument. Rice is now in such great demand that, even at greatly enhanced prices, the article holds its own against imports from other districts, and the producer is, as he has for some time been, in a position to bear an increase in the Government demand.

11. In regard to "other lands," now distinguished by Colonel Hopkinson as *Feringatiee*, he proposes a uniform increase to Rupee 1-3 per *poorah*, that is, at the rate of three *beegahs* to one *poorah*. To this increase of 50 and 33 per cent. in Sebsaugor, Luckimpore, and Nowgong, and Durrung respectively, the Board are aware of no objection.

12. The Board are in favor of the Commissioner using and acting on his discretion in raising the rates of assessment in the several districts, reporting results only to the Board.

13. With regard to Government order No. 1674, cited above, I am directed to observe that the Board are not prepared at present to report on the proposals there made for the first time for a change of the revenue system in Assam. They will reply to its 10th and 11th paragraphs hereafter, on receipt of the Commissioner's report in the matter, but meanwhile they strongly support the proposal for the deputation of a Settlement Officer to undertake the settlement of Kamroop, as suggested in paragraph 9 of the Government Order. The survey of this district embracing the tract of country on the North of the River Berhampoor, extend-

ing from Gowhatty on the East to Gowaiparah on the West, is next to complete this season. 988 square miles, comprising 769 villages, were surveyed during the season 1865-66, and the operations have since been extended in a northerly direction over the Bijnee and other Dooars. The demarcation of the Bijnee Dooar villages on the North of the Berhampooter, and of all the lands South of the river, 641 villages in all, was completed in 1865-66, embracing an area of 1,800 square miles. The settlement in the current season of boundary disputes between certain talpaltars and Mouzadars on the South of the Berhampooter, and the demarcation of eighteen grants in Kamroop, will complete the work. The revision of the settlements in this district may therefore be easily and advantageously first taken in hand.

Statement shewing the Land Revenue Demand of Assam (exclusive of Gowaiparah) in each of the year 1859-60, 1860-61, 1861-62, 1862-63, 1863-64, 1864-65, and 1865-66.

Districts.	1859-60.	1860-61.	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.
Cossyah and Jynteah Hills	1,534	205	1,377	1,377	1,377	325	2,308
Durrung	1,55,01	1,48,768	1,55,683	1,55,823	1,63,553	1,65,282	1,94,846
Kamroop	3,36,138	3,54,655	3,67,816	3,67,270	3,65,352	3,68,032	4,25,163
Luckimpore	48,956	53,867	58,176	61,082	87,149	77,157	1,13,651
Nowgong	1,57,211	1,62,000	1,72,442	1,71,441	1,72,251	1,77,907	2,16,660
Seebasgur	1,36,481	1,37,117	1,60,588	1,77,339	1,90,872	2,10,064	2,70,937
Total	8,35,338	8,56,612	9,16,077	9,34,332	9,80,556	9,93,770	12,23,505

From E. C. BAYLEY, Esq., Secretary to the Government of India, Home Department, to H. L. DAMPiera, Esq., Officiating Secretary to the Government of Bengal.—(No. 2818, dated Simla, the 27th July 1867.)

I am directed to acknowledge the receipt of the correspondence on the subject of the land revenue system of Assam, forwarded with your Office endorsement No. 1675, dated the 26th April last.

2. The Governor General in Council, I am desired to say, presumes that the remarks contained in Mr. Officiating Secretary S. C. Bayley's letter to the Board of Revenue No. 1674, dated the 26th April, express the views entertained on the subject by the late Lieutenant-Governor. If this is the case, His Excellency in Council would be glad to be informed whether they are concurred in by His Honor the present Lieutenant-Governor. I am at the same time desired to point out that this correspondence does not contain the information asked for in the letters from this Office No. 1527, dated the 31st August 1865, and No. 3498, dated the 6th April last, and to request that it may be stated, for the information of His Excellency in Council, what is the length of the existing settlements in Assam, and when they will generally expire.

3. His Excellency in Council gathers from various expressions in Mr. Mills' Report on Assam, that certain portions of the Province have already been surveyed, and would wish to be exactly informed to what extent this has been done, whether there is any intention of re-surveying these portions or not, and, if there is, what are the reasons which render a re-survey necessary.

4. With reference to the correspondence now forwarded, I am directed to state that the Governor General in Council entirely approves of the action taken by the Commissioner of Assam

and the Government of Bengal in rejecting the offer made by Messrs. Jenkins and Goodenough to take a perpetual farm of certain Mouzahs. Such an arrangement, if it had been carried out, must, His Excellency in Council thinks, have proved injurious to the village occupants, and in all probability subversive of the rights and interests they now possess in the soil, while it would have destroyed their present comparatively independent position, and reduced them to the condition of cultivators dependent upon the will of those gentlemen and their successors.

5. His Excellency in Council also concurs in the spirit of the 9th, 9th, and 10th paragraphs of your Office letter to the Board of Revenue above-mentioned; but the following points seem to require consideration, and I am accordingly to request that they may be brought to His Honor's notice.

6. If the survey of Assam is being conducted for revenue purposes, His Excellency in Council thinks that a Settlement Officer, assuming the District Officers to be unable to undertake the duty, would have been appointed simultaneously with the commencement of the survey, so that the khusrchs or field measurements might have progressed, if they were to be undertaken at all, *pari passu* with the survey. Unless this is done, the Governor General in Council is convinced that great discrepancies will become apparent hereafter between them, and that the survey itself will practically prove of little real value for purposes of settlement. Bearing this in mind, and assuming that the present settlements have nearly expired, I am to suggest that it deserves consideration whether fresh settlements for a moderate term of, say seven or ten years, founded on local enquiry of a general character, and checked by the survey returns, might not be made. But if the present

settlements have still some years to run, khusras, might be prepared, and settlements made, to take effect (where the revenue is increased) from the expiry of the existing settlements. The Governor General in Council doubts, however, whether this measure would be necessary, except where the occupancy and the cultivation are both of a permanent character, but whenever it may be necessary to secure its prompt and efficient execution, an Officer should be selected for the duty, who has had some previous training, and understands the duties with which he will be entrusted. This Officer should commence operations at once under the direction and control of the Commissioner of the Province, and should, of course, ask for orders, when necessary, from the Commissioner and the Deputy Commissioner of the District, and be in close communication with them. His real duties, however, would consist in working out the settlement, and not in merely reporting for orders. It would be advisable perhaps to begin with one settlement Officer in one district, and as his work progresses and is considered satisfactory, a second District may perhaps be commenced by a separate Officer. And if this settlement should give general satisfaction, it perhaps might be extended after a few years.

7. As regards the principles laid down in the 10th paragraph of the letter under notice, the Governor General in Council is doubtful whether a Mouzahdar should be reduced to the status of a mere Tehsildar. If the Mouzahdar has no land of his own in the Mouzah, if he is a stranger, or a mere farmer, having no local or hereditary connection with the Mouzah, the Governor General in Council cannot see that any thing would be gained by the continuance of the Mouzahdaree system in any place where the occupants of the soil can be induced to take up their own settlements on reasonable terms. Where the Mouzahdar, however, is himself partly an occupier or proprietor of the land, and partly the manager of the whole of it in behalf of the other occupiers, he might engage with the State in his own behalf as well as in behalf of the others. The whole body of the occupiers would thus form a village community, with interests, to a great extent, in common. In this case, the land in the possession of each person, and the sums to be paid by each, with the allowance to the Mouzahdar or manager, should be recorded, while the profit or loss on the cultivation of such parts of the waste lands allotted to the village or Mouzah as might be broken up during the progress of the settlement, might be divided *pro rata*, on the occupants, or the profit might be the perquisite of the Mouzahdar in return for his responsibility for any failure on the part of an occupier to pay his annual quota of the State demand.

8. Where the cultivation, however, is so fugitive and uncertain that no reliance can be placed on the continued occupation of the cultivators, the settlement might be made absolutely with the Mouzahdar, in the first instance as farmer, with the promise of the proprietary rights if his management should prove successful. Where, on the other hand, the occupiers are permanent, but are not willing to engage for the profit or loss of their respective quotas of revenue, the Mouzahdar would be simply the farmer, bound to collect only the quota of revenue of each occupier of land, but enjoying the profit of the breaking up of such portions of the waste land within the village

boundaries as he might be able to reclaim during the settlement. His Excellency in Council does not consider that any advantage would be gained by changing the designation of "Mouzahdar" to "Tehsildar." Such changes are never of any real advantage, and only lead to confusion. The real point for decision is the definition of the Mouzahdar's rights, duties, and responsibilities. He should, in the opinion of His Excellency in Council, be in the same position as the Sudder Malgoozar in the North-Western Provinces, who may be sole proprietor, co-sharer, village representative, or farmer, as the case may be, while a Tehsildar, on the other hand, is a Collector, and, under any circumstances, the term seems inapplicable to the Mouzahdar.

9. As regards the emoluments to be allowed to the Mouzahdars, I am directed to say that it is not usual in other Provinces to give a percentage on the revenue to the Sudder Malgoozars or village managers; but as this seems to have been the rule hitherto observed in Assam, it does not appear to be expedient to make any change. It is immaterial to the State whether the profits of the management form, in the first instance, a deduction from the assets before the assessments are declared, or are subsequently paid out of the latter. All that need be cared for is that while the assessments are really moderate, they approach also to what is a fair demand on the part of the State, due regard being had to local circumstances.

10. The Governor General in Council believes that it would be sound policy to declare the permanent occupiers of the soil, what they no doubt were originally, *vis.*, the proprietors of their lands, subject of course to a fair revenue. This in the opinion of His Excellency in Council, will be the first step towards any great improvement in the country.

11. There are, it is believed, no Tehsildars or Tehsildary Divisions of Districts in Assam, and, if this belief is correct, it seems to be a matter well worthy of consideration whether they should not be established. They should not, in the first instance at any rate, be so large as they now are in the North-Western Provinces, but a commencement might be made with circles of from a lakh to a lakh and a quarter, or even a lakh and a half of rupees. The Tehsildars might also be made Moonsiffs and Superintendents of Police within their jurisdictions. A suitable machinery would thus be established for the management and supervision of the revenue and the tenures of land, and for a check on the Mouzahdars, while the District Officers, relieved of such details, which they are ill able to manage, would have more leisure for more important duties. Perhaps, after a time, this system would admit of some reduction in the superior administrative machinery of the Province.

12. In conclusion I am desired to say that His Excellency in Council hopes that if these suggestions are carried out as far as practicable the condition of the people will be very materially benefited, while the general control of the Officers of the Government will be considerably strengthened. In particular, the tenures of land will be placed on a proper footing, while the yeomen of the country will be preserved, and at the same time scope and opportunity given for the growth of larger landholders.

From **Lieutenant-Colonel Henry Hopkinson**, Commissioner of Assam, to the Secretary to the Government of Bengal.—(No. 343, dated Gowhatty, the 21st September 1867.)

I HAVE the honor to return herewith letter

No. 151B., dated 10th January 1867, from Secretary to Board of Revenue, to Government of Bengal, and enclosures.
No. 3219B., dated 18th June 1867, from Secretary to Board of Revenue, to Government of Bengal, and enclosures.

No. 2818, dated Simla, the 27th July 1867, from the Secretary to the Government of India, Home De-

partment, to your office, with annexures as noted in the margin, on the subject of the land revenue of Assam, and which was placed in my hands by the Hon'ble the Lieutenant Governor for perusal and report.

2. With reference to the 2nd paragraph of Mr. S. C. Bayley's letter, I beg to express my humble concurrence in the fiscal policy sketched out in Bengal Government letter No. 1674, dated the 26th April 1867. I would wish to see a revision of the land Revenue system of the Province of Assam carried out exactly on the basis of the propositions set forth in the 10th paragraph of that letter. I annex a statement shewing the length of the existing settlements in Assam. It will be observed that out of a total of 983 settlements of mouzahas, there remain only two settled for more than five years, and only 47 of more than one year, so that practically it may be said that the Government is at present unfettered by any engagements on this head.

3. Upon the 3rd paragraph of the Government of India's letter, I have to report that the Districts of Kamroop, Nowgong, Durrung and Sebsaugor, and partially even Luckimpore, were surveyed between the years 1828 and say 1846. The survey was conducted mouzahwar, or village by village, on a scale of 20 chains to the inch, but by a rude method, the Bengallee Magnetic Compass being, I believe, the only instrument employed under the local Civil Authorities. These Mouzahwar Maps, copies of which still exist in the District Offices, were forwarded to the Surveyor-General's Office for examination, when great discrepancies were discovered in them, and no data about them was forthcoming. From this explanation it will be perceived why, if survey operations were again to be resumed in Assam, a re-survey of what had already been done but incompletely, was necessary.

4. In April 1862 I proposed a survey of the Waste Lands in Assam, but going home sick, this proposition was superseded by a recommendation made by my successor, Colonel Haughton, in September 1862, and approved of by the Government of Bengal, that the whole of Assam should be re-surveyed, and accordingly a re-survey was ordered on the Bengal system of a previous demarcation survey under a Superintendent of Survey, followed by a professional revenue survey.

5. The demarcation parties have now demarcated Kamroop, Sebsaugor, very nearly the whole of Nowgong, and a considerable portion of Luckimpore. I believe that this separate demarcation survey should have been dispensed with in Assam: no doubt there are estates of various kinds in Assam requiring demarcating, but they are nothing like in the same proportion, nor do they exhibit the same complexity which I am told obtains in Bengal, and I am convinced that they would have been best dealt with by the professional survey party demarcating them, which

would have saved a great expense, if not waste of money. I would now recommend the adoption of this course with what remains to be done, more particularly as the tracts remaining to be demarcated include a very large proportion of waste, and a very small proportion of lakhiraj or semi-lakhiraj land requiring demarcating. I may further state that I lately held a conference at Deb-rooghur with the Professional Surveyor, Lieutenant Barron, the Superintendent of Surveys, Mr. L. B. B. King, and the Deputy Commissioner, Major Stewart, who has given very much attention to the same subject in Cochar, and we unanimously agreed that the separate demarcation parties under Mr. King might be safely broken up, and what there was of demarcating remaining to be done transferred to the Professional Survey, and I solicit it may be understood as a definite proposition that I recommend that this be now done.

6. It has been found quite impossible in Assam to adjust the proper interval between the demarcating and the professional survey operations. There is often found so little to demarcate, and the demarcation survey thus gets so far ahead of the professional survey, that the thaks, or temporary land-marks, left by the former for the guidance of the professional survey, disappear under swiftly destructive influence of the climate of Assam with its rains and floods, before the latter can make use of them. Thus even in Kamroop, where there was more demarcating work to perform than elsewhere, the professional survey is more than a year, and will probably soon be two years behind the demarcation survey.

7. The professional survey has, I understand, not yet broken ground on the south side of Kamroop, nor at all in Nowgong, but has pretty well finished with Sebsaugor and has made some progress in Luckimpore. Durrung has neither been demarcated nor professionally surveyed.

8. With reference to the 6th paragraph of the Government of India's letter, I understand it to be clearly the object of the present survey that it is to answer revenue purposes, and so far as that it defines the areas of villages within which the measurements for assessment have to be made by the Mouzahdars, it answers the end proposed. I think, however, that there are large tracts in every district of permanent cultivation where the Surveyor, in addition to his own scientific operations, might well carry on the khurah measurement of land, and I would have the Professional Survey at once instructed that they are to shew every species of land "under cultivation," "thrown out of cultivation," "fit for cultivation," "waste or jungle," "sites of villages and gardens." They already show separately "sites of villages," "waste or jungle" and "culturable land," including in the latter "land under and thrown out of cultivation;" and Lieutenant Butler, the Professional Surveyor of Kamroop, informs me, if I understand him rightly, that he could easily give the additional details I suggest, both for his past and for his future work.

9. Furnished with such maps, we should, I think, be able to exercise an efficient check over the returns of the Mouzahdars. I do not see my way yet clearly to the employment of a Settlement Officer in the Province, and out of the present system of annual assessment levied on each individual ryot; but, if anywhere, the

introduction of settlements for terms of years should be tried in Kamroop, and Captain Sherer, the Deputy Commissioner of Kamroop, will make enquiries on this point during the present cold season.

10. With reference to paragraph 7, I submit that there is no question of the reduction of a Mouzahdar to the status of a mere Tehsildar, since his actual position is generally rather below than above that of a Tehsildar, so far as that he has a smaller charge. The best Mouzahdars have little or no land of their own in their mouzahs, and are constantly without local or hereditary connection with them; they are simply Tax Collectors, and might, as observed, be dispensed with if the occupants of the soil could be induced to take up their own settlements, of which, however, I see at present little chance. There is one other use of the Mouzahdar, however, that they everywhere represent our administration and are bound to stand or fall by it; they constitute an official aristocracy in the interior of the country of our own creation, and we have none but them to trust to, to know what is going on; for our Police for the most part are as much foreigners as ourselves, and know less of the province and the people. In British Burmah, where the circumstances are the same, it has been found necessary to have the Thogyee precisely what the Mouzahdar is with us in Assam. We consider it a positive disqualification that a Mouzahdar should have any considerable stake in land within his mouzah, and he is never a manager on behalf of other persons. It is most important to remember, as was pointed out by General Jenkins, that "with regard also to the manner of levying the taxes, it may be necessary to observe that, as far as has fallen under my observation, there is no germ of any village community in any part of Assam."

"Every ryot is equal to and independent of every other ryot of whatever caste, and there never were village servants. All Collectors of taxes from the highest Phokun to the lowest Bora of a village were officers of Government, and were liable to dismissal, though in most instances a successor to a vacant appointment caused by death was generally taken from the same family."

11. It has not been found to answer to let the Mouzahdar have any perquisite beyond his commission on collections, neither in permanently cultivated tracts, nor where the cultivation is fugitive and uncertain, as described in paragraph 8 of the Government of India's letter. The Mouzahdar is spoiled when he is allowed to become anything like a farmer of revenue to any extent whatever. It is a mistake even to regard him as a person who can directly increase cultivation. He may prevent increase by corrupt or oppressive conduct, and so far an improgressive mouzah implies bad management; but otherwise increase of cultivation should be looked to depend entirely on the spontaneous action of the ryot, who may be safely depended upon to increase it, where it is his interest to do so. The Mouzahdars must be regarded simply as administrative officers charged with the collection of the revenue, and with such executive functions as may be assigned them, and I see no objection to their being called Tehsildars. The change will not cause confusion in Assam; and out of it, I think, it will prevent the confusion which the term "Mouzahdar" has hitherto invariably created.

12. I have said in a previous part of this letter that I did not quite see my way to the employment of a "Settlement Officer" properly so called in Assam, but I think it would be well worth while to consider whether a special officer, familiar with the mode of land revenue assessment in British Burmah, or a Madras fiscal officer skilled in the ryotwarree system of that Presidency, might not, with great advantage, be deputed to Kamroop to enquire into and report upon the ryotwarree settlements made there, and what improvements could be effected. Sir Arthur Phayre had some Special Officers employed on a similar duty in British Burmah, and perhaps one of these might be found available.

13. Meanwhile, I would respectfully urge that the settlement, on clear and defined principles of the revenue system of Assam need not interfere with a revision of the present rates of rent or assessment throughout Assam, and that this may be carried out at once on the basis of the proposals made by me in No. 173, dated the 14th June 1865, to the Secretary to the Government of Bengal. I will not here repeat the arguments I made use of in that letter, nor the detailed explanations I gave, but I extract the following memorandum, shewing at a glance the rates now current in the Districts of Assam as also those which I would recommend should be introduced:—

DISTRICT.	RATES NOW IN FORCE PER BEEGAN.		PROPOSED RATES PER " BEEGAN.			
	Exempt or low paddy land.	Other land.	Burtes, home- stead or gar- den land.	Exempt or low paddy land.	Furnishing or mustard dry weather crop lands.	
	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	
Kamroop ...	0 6 0	0 4 0	1 0 0	0 10 0	0 8 0	
Durrang ...	0 5 6	0 4 6	1 0 0	0 10 0	0 8 0	
Newgaug ...	0 5 6	0 4 6	1 0 0	0 10 0	0 8 0	
Sechaungor ...	0 5 0	0 4 0	1 0 0	0 10 0	0 8 0	
Luckimpore...	0 5 0	0 4 0	1 0 0	0 10 0	0 8 0	

The present land revenue of Assam amounts in round figures to Rupees 11,50,000, and I estimate that the increased rates I have proposed will, when fully carried out, raise it to about Rupees 24 lacs.

14. In the event of this proposed increase of rates receiving the sanction of Government, I should be glad that the Board's suggestion in favor of the Commissioner using and acting on his discretion in carrying out details of the measure, within such time and in such manner as he may find expedient and reporting results only to the Board, will be adopted.

15. The people of the country have been long expecting an increase in the rates of assessment and are prepared for it, and it is probable that the measure now proposed might be carried out simultaneously throughout the whole province without creating the scandal of a single disturbance, but I cannot give an absolute guarantee that this would be the case. The doubling of rent of a whole people cannot be expected to be a popular measure, and in particular quarters, which are either remote or where the cultivators are somewhat turbulent in disposition, or where they have young officers over them, feelings

dissatisfaction might find expression in overt acts, if the increase of rates was made too suddenly and too generally; but I do not think we should have any trouble, any where if the Commissioner were allowed to commence the measure with those officers who have the greatest influence, and in those districts or parts of districts most prepared to receive the innovation, and then, when once we had got the change quietly established in such places, the rest of the province would accept them without demur.

16. Kamroop is the largest district in Assam, the most populous, and which yields the largest revenue; it is the district to which the other districts most look, which, if such a term can be applied in such a case, most leads public opinion, while at the same time it is the district best under control and most amenable to authority. I should like therefore to begin at once with Kamroop and impose the increased rates therein, and I should have the assistance of Captain Shearer, the Deputy Commissioner, than whom a better officer for introducing a measure of the kind I do not know, and from whom I have already received assurances of his readiness to carry it out, and his confidence that it can be executed with complete success.

17. At the same time I would place myself in communication with the other district officers, and as circumstances would appear to require, arrange with them the introduction of the increased rates simultaneously with Kamroop, or only after they had been carried out in Kamroop, and either wholly or partially in each district.

18. It might be found desirable even to confine the introduction of the increased rates at first to those mouzahs which lie within a certain radius, say of 10 miles from the Sudder Station.

19. But what I would desire to express is, that, while making the rates I have proposed, the fixed end to be obtained, the Commissioner should be allowed considerable latitude as to the manner in which he felt his way to that end.

20. Meanwhile, I hope it will be understood that I submit it as a definite proposition, that the Deputy Commissioner of Kamroop be allowed to make his next assessments, i.e., those for 1868-69, at the enhanced rates generally throughout his district.

21. With reference to paragraph 9 of the Government of India's letter, I beg to say that I think that the manner in which the Mouzahdars are remunerated had better continue for the present.

22. Upon paragraph 10 I observe that, without entering upon the question of the policy of declaring the permanent occupiers of the soil the proprietors of their lands, I am satisfied that they do not at present look or care for such a declaration. I doubt if they can conceive of a more perfect tenure than that which they have already got. I believe it also to be tolerably well ascertained that they never have been "proprietors of their lands," and that Mr. Mills's statement is correct, under the curious feudal system introduced by the Ahoms in the 13th century, not only the soil but the subject himself was held to be the property of the State.

23. With reference to paragraph 11, I have to explain that it has been supposed hitherto in Assam that a Mouzahdar or Chowdry corresponded to a Tahsildar. But a Tahsildar charged with the collection of a lac, or a lac and a half of Rupees, and who was also a Moonsiff and Superintendent of Police, almost represents the position of our sub-divisional officers. Our sub-divisions would in the North-Western Provinces be really considered, I suppose, as mere Tahsildars.

Statement showing the existing Settlements in the Province of Assam.

Description.	KAMROOP.		DURUNG.		NOWGONG.		SEEBHAUGOR.		LUCKIMPORE.		TOTAL.	
	Number.	Area in Beegah.	Number.	Area in Beegah.	Number.	Area in Beegah.	Number.	Area in Beegah.	Number.	Area in Beegah.	Number.	Area in Beegah.
Mouzahs settled for more than five years...	...	...	1	1,505	1	560	...	...	...	...	2	2,065
Mouzahs under five and more than one year	37	8,71,819	...	...	9	29,552	1	4,812	...	...	47	4,06,213
Mouzahs under annual settlement ...	193	10,57,325	206	5,83,727	258	8,75,068	131	8,90,492	146	3,91,520	934	35,98,332
Total	230	14,29,344	207	5,85,232	268	7,05,180	132	8,95,334	146	3,91,520	983	40,06,610

H. HOPKINSON,
Commissioner of Assam.

From H. L. HARRISON, Esq., Junior Secretary to the Government of Bengal, to the Officiating Secretary to the Board of Revenue, Lower Provinces,—(No. 3720, dated Fort William, the 15th October 1867.)

With reference to your letter No. 3219B., dated the 18th June last, I am directed

From Government of India, Home Department, No. 2818, dated 27th July.

From Commissioner of Assam, No. 342, dated 21st ultimo.

to forward herewith, for the Board's information, a copy of the marginally noted correspondence, on

the subject of the Land Revenue system of Assam, and to state that the Lieutenant-Governor apprehends that the Board, in paragraph 12 of their letter under reference, have assented virtually to Colonel Hopkinson's proposal, for raising the rates of assessment in that Province.

2. It will be convenient, the Lieutenant-Governor thinks, if, instead of carrying on any further written correspondence, the Members of the Board will be good enough to discuss the matter verbally with His Honor in Calcutta. The Lieutenant-Governor now refers merely to the question of settlement—that of survey being (His Honor hopes) settled.

3. The two chief points of interest in respect of the settlement appears to the Lieutenant-Governor to be as follows:—

1st.—The exact position in which the ryots should be placed; (a) as regards the nature of their tenure, (b) as regards their relation to the State, i. e., whether a pure ryot-waree system shall be adopted with simply a collector of revenue (a Tehsildar) between the ryots and Government, or whether an attempt shall be made to establish men of influence from among the ryots or representative men by entrusting to them the collection of the revenues, and by giving them certain privileges and authority. As regards this latter point the Board will doubtless notice the opinion quoted by Colonel Hopkinson as having been given by the late Commissioner, Colonel Jenkins. The 2nd point is that of the rate of assessment.

4. The suggestion contained in paragraph 12 of Colonel Hopkinson's letter for the appointment of a special settlement officer also requires consideration.

5. The Lieutenant-Governor requests that the Members of the Board will be good enough to take these matters into their immediate consideration, so that they may be prepared to lay their views before His Honor on an early date.

Resolution by His Honor the Lieutenant-Governor of Bengal,—(Dated the 5th November 1867.)

Read the following correspondence:—

1. From the Officiating Secretary to Board of Revenue, No. 424, dated 16th July 1861.

2. From Secretary to Government of Bengal, to Secretary to Government of India, Home Department, No. 363A., dated 15th August 1861.

3. From Secretary to Government of India, to Secretary to Government of Bengal, No. 1621, dated 30th August 1861.

4. Government of Bengal, to Board of Revenue, No. 980A., dated 9th September 1861.

5. Commissioner of Assam, to Government of Bengal, No. 30, dated 4th May 1864.

6. From Major Agnew, to Government of Bengal, No. 52, dated 28th March 1865.

7. From Government of India, Foreign Department, No. 346, dated 29th April 1865.

8. From Government, to Commissioner of Assam, No. 3520, dated 17th May 1865.

9. From Commissioner of Assam, No. 173, dated 14th June 1865.

10. From Board to Government, No. 151B., dated 10th January 1867.

11. From Government to Board, No. 1135, dated 6th March 1867.

12. From Government, to Board, No. 1674, dated 26th April 1867.

13. From Board, to Government, No. 3219, dated 18th June 1867.

14. From Government of India, Home Department, No. 2818, dated 27th July 1867.

15. From Commissioner of Assam, No. 342, dated 21st September 1867.

16. Government to Board, No. 3720, dated 15th October 1867.

In a letter dated the 14th May 1861, Lieutenant-Colonel Hopkinson, the Commissioner of Assam, wrote—"I see very well that the land taxes here are almost nominal; that they might be doubled and the excess so obtained over the present revenue devoted, with enormous advantage, towards defraying the cost of construction of trunk roads and improved steam communication. At present we take very little from the Assamese, and we do very little for him. We do not intercept the bounty of nature on the one hand; on the other hand we do not lead him to look for more than nature provides, place him in communication with the outer world, and put him in the way of acquiring new material wants: the result is that he remains an indolent, sensual, non-progressive being."

2. In reporting on this subject on the 16th July 1861, the Board stated that they had been for some time in communication with the local Officers on the subject of increasing the assessments in Assam; and that, although the opinions of individual Officers differed as to details, it was acknowledged on all hands that the existing rates of taxation were light, and it was generally admitted that an increase of the rates on some kinds of land might be effected without hardship to the people.

Further, the Board wrote—"The paucity of labor and the natural indolence of the Assamese population are, as is well known, subjects of complaints in every communication which comes from that part of the country, and it seems to be equally established even among the Collectors of the Districts that the want of industrious habits on the part of the Assamese may be ascribed in a great measure to the lowness of the assessments and the largeness of the profits acquired by the lightest toil."

3. The Board, for reasons which were fully stated, then supported the recommendation of the late Commissioner, Colonel Jenkins, that an increase should be made of the rates assessed on roopit or rice-growing lands, but that the assessment on other lands should be raised from Rupee 1 to Rupee 1-2 in Nowgong and Darrang, and from 14 annas in Secharangor and 12 annas in Luckimpore, to Rupee 1 per pousah, which is nearly equal to an acre.

The rates in Kamroop were necessarily to remain unaltered until the expiration of the current ten years' settlement of that District.

These recommendations were approved in the orders of this Government, dated 9th September 1861.

4. On the 28th March 1865, Major Agnew, an Officer of experience in Assam, being then in charge of the Commissioner's Office, wrote in connection with the subject of neglected communications in Assam—"that we cannot command a supply of labor, nor employ it in the way the Native Rulers of Assam formerly did; that the excessive lightness of our land assessments supercedes the obligation of our ryots to work, while it fails to supply sufficient funds for expenditure."

5. On this the Government of India, in a letter dated 30th April, directed that an enquiry be undertaken as to how far the present assessment should be allowed to stand; and that fresh arrangements should be made as existing settlements should expire.

6. On the 14th of June 1865, Colonel Hopkinson recommended that the enhancement of assessment should be carried out at once, and simultaneously throughout the whole Province, so as to prevent the general exodus of the ryots, which would otherwise certainly take place, from the Pergunnahs into which the enhanced rates had been introduced. Colonel Hopkinson further proposed that the rates should be equalized in all Districts as shown in the following table.

	RATES NOW IN FORCE PER BEEGAH.		PROPOSED RATES PER BEEGAH.			
	Roopit or low paddy land.	Other lands.	Bastee or bomestead and garden lands.	Roopit or low paddy land.	Feringatiee or high lands for crops, &c.	
	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	
Kamroop	0 5 0	0 4 0	1 0 0	0 10 0	0 8 0	
Darrang	0 5 0	0 4 0	1 0 0	0 10 0	0 8 0	
Nowgong	0 5 0	0 4 0	1 0 0	0 10 0	0 8 0	
Sebsaugor	0 5 0	0 4 0	1 0 0	0 10 0	0 8 0	
Luckimpore	0 5 0	0 4 0	1 0 0	0 10 0	0 8 0	

He estimated that the financial effect of this measure would be to raise the land revenue of the Province from 10½ to 24½ lakhs of Rupees, and wrote—"I am confident that the people of Assam can well bear to pay still higher rates of land revenue than those which I have proposed, but for the present I am averse to recommending any very large increase over existing rates. As a proof of the prosperous state of the Assamese, and the amount they can afford to spend on a single luxury, I may mention that in 1863-64 the quantity of opium sold in the Province was 1,225 maunds, yielding a gross revenue of Rupees 11,35,462."

In 1864-65 the price of opium was raised from Rupees 14 to Rupees 20 per seer, but instead of this causing any check on consumption, the quantity sold during the year was 1,983

maunds, the receipts from which were Rupees 14,35,426, or about 4 lakhs of Rupees in excess of the land revenue of the Province."

7. The Board, in reporting on these proposals on the 18th June 1867, have given a statement, from which it appears that the land revenue of the temporarily settled Districts, which now constitute the Assam Province, has gradually risen as below, in consequence of the extension of cultivation, as well as of the enhancement of assessment made under the orders of 1861.

	Statement showing the Land Revenue Demand of Assam (exclusive of Goalpara) in each of the years 1860-60, 1860-61, 1861-61, 1861-62, 1862-63, 1863-64, 1864-65, 1865-66.					
	1859-60.	1860-61.	1861-62.	1862-63.	1863-64.	1864-65.
Districts.						
Cossyah and Jynteah Hills...	1,534	205	1,377	1,377	1,377	328
Darrang	1,56,915	1,48,766	1,55,083	1,55,823	1,63,555	1,65,282
Kamroop	3,36,188	3,54,655	3,67,816	3,67,270	3,65,352	6,63,032
Luckimpore	48,956	53,867	58,176	61,082	87,149	77,167
Nowgong	1,57,211	1,82,000	1,72,442	1,71,441	1,72,251	1,77,907
Sebsaugor	1,36,431	1,37,117	1,60,583	1,77,339	1,80,872	2,10,061
Total	8,35,338	8,56,612	9,16,077	9,31,332	9,50,556	9,93,770

The Board explain that the increase shown under 1865-66 is nominal to the extent of Rupees 1,75,000, being caused by a change in the mode of making up the accounts. The remainder of the increase, however, nearly Rupees 55,000, is real.

The Board are "in favor of the Commissioner's using and acting on his discretion in raising the rates of assessment in the several Districts."

8. In his letter of the 21st September 1867, Colonel Hopkinson has repeated his former recommendations for the enhancement of rates; adding—"The people of the country have been long expecting an increase in the rates of assessment and are prepared for it, and it is probable that the increase now proposed might be carried out simultaneously throughout the whole Province without creating the scandal of a single disturbance, but I cannot give an absolute guarantee that this would be the case."

Colonel Hopkinson wishes, therefore, to have a discretion left to him in the matter of introducing the enhanced assessment gradually, as he may judge best, throughout the Province, proposing to begin with the Kamroop District, that being "the largest District in Assam, the most populous and which yields the largest revenue; it is the District to which the other Districts most look; which, if such a term can be applied in such a case, most leads public opinion, while at the same time it is the District best under control and most amenable to authority."

9. While these discussions as to the enhancement of rates have been going on, the question of the most advantageous mode of settlement for Assam has arisen. The Board of Revenue, in a letter of the 10th January 1867, expressed their opinion in favor of the policy laid down by Mr. Mills in the 37th paragraph of his Report on Assam, "of granting twenty years' settlements to Mouzahdars, remunerated by a commission of 20 per cent., who should hold tenures of such extent that each would yield the Mouzahdar an annual gross income of about Rupees 3,000. The Mouzahdar was to be vested with certain privileges and rights, among which was that of having a settlement made with himself or his heirs, provided he had not been guilty of gross mismanagement of his charge, for which he was to be liable to dismissal. The Board went further and advocated the creation of a class of landed proprietors, "by the assignment of leases for long periods to be eventually converted into permanent holdings."

10. Colonel Hopkinson has throughout the discussions held a directly opposite view. He would "enforce throughout Assam a ryotwara annual settlement of the simplest and purest character," the collections being made directly from the ryots by Government officials, and not by farmers.

11. In a letter dated the 26th April 1867, to the address of the Board of Revenue, the Officiating Secretary to the Government of Bengal thus communicated the views of the Lieutenant-Governor, (Sir Cecil Beadon)—

"Where the agriculture of a country is in an advanced state, and where its improvement is likely to be brought about by a system of high farming on a large scale, worked by a body of skilled and intelligent capitalists, it is, I am to observe, of course very desirable that within certain limits the lands should be held by large proprietors; and the grant of waste lands on long leases, or in fee-simple in tracts not exceeding 3,000 acres in extent, is calculated to give this system a fair trial in India, wherever it can be applied with advantage. But where the soil is held by cultivators, having a right to occupy it on payment of rent to the Government, it does not appear to the Lieutenant-Governor that any useful object is gained by interposing between the Government and the ryots, a proprietor or farmer, whose sole business in that capacity is to collect the rents from the ryots, and make what profit he can out of the rents, after satisfying the Government demand.

"It is in every way a preferable course to give the actual occupants of the soil, whether he be an European Tea Planter holding on lease an estate which he has reclaimed from jungle, and which may comprise some thousand acres, or a

"ryot cultivating a few acres of rice or garden land, as secure and certain a tenure as can be conferred upon him, subject to the payment of revenue to the Government at rates fixed for long periods, and to preserve a clear distinction between the rights and obligations of proprietorship, and the duties of fiscal and official administration."

12. At the same time the Board were called upon to take up the whole question of the revenue of Assam, with a view to its being settled on clear and well defined principles, and the main principle suggested were—

That the settlement should be made with resident ryots at rates determinable from time to time by the Government, and that, subject to the payment of such rents, the tenure of every ryot should be hereditary and transferable;

That the collections from the ryots should be made by Tehsildars, who should be purely administrative officials, with no rights whatever beyond the remuneration which might be fixed for their services;

That the assessment on lands occupied by non-resident ryots, and on lands newly brought under cultivation, should be adjusted annually on the result of actual measurement;

That the ryots of each village or cluster of villages should be required to appoint a headman to assist the Tehsildar in collecting the rents and in pointing out lands newly brought into cultivation, and to be responsible for reporting crime and apprehending offenders, and for furnishing all information that may be required of him.

13. In a letter No. 2818, dated 27th July 1867, the Secretary to the Government of India in the Home Department, expressed the general concurrence of the Governor General in Council in the views expressed by the Lieutenant-Governor. It was suggested that simultaneously with the Professional Survey which is being carried on in Assam, field measurements and local enquiries should be made, to be checked by the survey returns, with a view to making fresh settlements for seven or ten years on the expiration of the current settlements. The Governor General in Council doubted whether in any case it would be desirable to reduce the Mouzahdar to the status of a Government Tehsildar having no interest in his villages; and suggestions were made as to the arrangements which might be entered into according as local circumstances might vary.

The Secretary wrote—"The Governor General in Council believes that it would be sound policy to declare permanent occupants of the soil what they no doubt were originally, *viz.*, the proprietors of their lands, subject of course to a fair revenue. This, in the opinion of His Excellency in Council, will be the first step towards any great improvement in the country." It was suggested that Tehsildars should be appointed with circles of collection, each yielding from 1 to 1½ lakhs of Rupees; and that these should be made *Mooduss* and Superintendents of Police within their jurisdictions.

In conclusion it was said that "His Excellency in Council hopes that, if these suggestions are carried out as far as practicable, the condition of the people will be very materially benefited, while the general control of the Officers of the Government will be considerably strengthened. In particular the tenure of land will be placed

"on a proper footing, while the yeomen of the country will be preserved, and, at the same time scope and opportunity given for the growth of larger landholders."

14. These instructions were communicated to the Commissioner of Assam, who, in a letter of the 21st September, has expressed his further views on the subject; they were also communicated to the Board of Revenue, and on the 30th of October the Lieutenant-Governor held a conference with the Members of the Board for the purpose of settling the details of the arrangements to be made. At this conference the Lieutenant-Governor had the benefit of the local

knowledge of Captain Sherer, Deputy Commissioner of Kamroop, who was in Calcutta on leave.

15. As regards the rates of assessment, the Lieutenant-Governor has resolved to act on the unanimous opinion of all Officers who have been consulted on the subject, and to sanction the increase of the assessment to the rates which are recommended by Colonel Hopkinson, viz:—

Rs. As. P.

Homestead or garden land	...	1	0	0	per standard beegah
Roopit or low rice land	...	0	10	0	ditto ditto.
Paragatties or mustard dry wheat crop lands	...	0	8	0	ditto ditto.

These rates will eventually be adopted throughout the Province.

* Statement showing the existing Settlements in the Province of Assam.

Description.	KAMROOP.		DARRING.		NEWBOUR.		SEERADANGAL.		LUCKIMPUR.		TOTAL.	
	Number.	Area in Beegah.	Number.	Area in Beegah.	Number.	Area in Beegah.	Number.	Area in Beegah.	Number.	Area in Beegah.	Number.	Area in Beegah.
Mouzas settled for more than five years	...	...	1	1,506	1	800	...	...	...	...	2	2,306
Mouzas under annual settlement	37	3,71,919	...	...	9	29,552	1	4,842	...	...	47	4,06,213
Mouzas under annual settlement	198	10,57,535	206	5,83,727	254	6,75,008	131	8,90,492	146	3,01,620	635	35,98,332
Total	235	14,29,844	207	5,84,232	264	7,05,180	132	8,95,334	146	3,01,590	683	30,08,610

H. HOPKINSON,
Commissioner of Assam.

16. From a Statement* appended to the Commissioner's letter of the 21st September, it appears that out of 953 Mouzas in the Province, two only are under settlements which have above five years, and 17 under settlements which have less than five and above one year to run. The remaining 934 Mouzas are under annual settlement.

17. Field measurements and local enquiries should be commenced in the approaching season, and should follow the survey as closely as is practicable; but the Lieutenant-Governor accedes to the request of the Commissioner to leave to him the fullest discretion "in carrying out the details of the measure within such time and in such manner as he may find expedient;" and to allow him considerable latitude as to the manner in which he may feel his way to the end of introducing the full rates which he has proposed.

18. The definite proposition which the Commissioner submits in the 20th paragraph of his letter, that "the Deputy Commissioner of Kamroop be allowed to make his next assessments, i. e., those for 1868-69, at the enhanced rates generally throughout his District," may be noted upon.

19. The settlements will be made on the following principles:—

I.—The term of settlement shall ordinarily be ten years; but it will be in the discretion of the Commissioner to make settlements for fifteen years, there, in his opinion, special local circumstances make such a term desirable.

II.—The settlements for all lands which are not occupied shall be made directly by the Commissioner with the occupant ryots; the rate of assessment shall be fixed for the term of the settlement, but shall be liable to alteration in future settlements.

III.—Holders so settled with the ryots shall be hereditary and transferable, on the condition

that transfers are registered in the Office of the Deputy Commissioners or Mouzahdars.

IV.—Lands which may be brought under cultivation during the currency of the settlement shall be assessed on actual measurements year by year. At the next settlement a hereditary and transferable title will be conferred on the cultivators who may be found in possession of lands which they have so brought under cultivation, or on their representatives.

V.—For the purpose of making collections directly from the ryots, the Mouzahdars will be retained on their present footing. They will be remunerated by a commission of 15 per cent. on the rents which they may pay in; they will be liable to dismissal for misconduct. Ordinarily when a Mouzahdar has performed his duties satisfactorily, the Deputy Commissioner will select a qualified successor from the members of his family; but this will be purely an act of favor in recognition of the Mouzahdar's services.

VI.—In order to give the Mouzahdars an interest in using their influence to extend the cultivation during the currency of the settlement, they shall receive an allowance of 50 per cent. on all rents which may be collected from lands brought into cultivation after the first settlement of the Mouza. It will be distinctly understood that this allowance will continue during the currency of the settlement only, and will give the Mouzahdar no further right whatever in the lands or Mouzas.

VII.—The ryots of each village, or of each cluster of villages, shall be required at the time of settlement to nominate a headman from among their number, whose duty it will be to assist the

Report on the State of the Salt market during the second quarter of 1867-68.

From R. L. MAXWELL, Esq., Officiating Junior Secretary to the Board of Revenue, Lower Provinces, to the Secretary to the Government of Bengal,—(No. 529C., dated Fort William, the 26th January 1868.)

I am directed by the Board of Revenue to submit the following report on the state of the Salt market during the months of July, August, and September last, or the second quarter of 1867-68.

2. The quantity of Government Salt sold at the Presidency under whole-sale Rowanahs amounted to maunds 3,81,712, as shewn in the margin, giving a monthly average of maunds 1,27,237, or maunds 65,971, in excess of the monthly average of the previous quarter. The sales of Government Salt at Pooree were maunds 9,855 of Pungah, and maunds 47,487 of Kurkutch, against maunds 4,851 and maunds 45,892 of Pungah and Kurkutch respectively in the preceding quarter, and maunds 13,978 of Pungah and maunds 61,275 of Kurkutch in the corresponding quarter of 1866-67.

3. The following are the details of the above-mentioned Presidency sales, viz., at the Hidgelee Dépôts, maunds 1,12,385 against maunds 1,22,660 in the previous quarter; at Sulkea, maunds 2,69,285 against maunds 60,890 in the quarter preceding; and at Ghosry, maunds 41-35-0, being the remnant found in the Golahs after delivery of the 250 maunds mentioned in the last quarterly report.

4. The sales of Excise Salt from the Dhossa Golahs during the quarter amounted to maunds 650 against maunds 1,000 in the previous quarter. The sales at Cuttack and Balasore from the Excise Bonded Warehouses were maunds 7,969 and maunds 9,719 respectively, leaving a balance of maunds 34,907 and maunds 24,706 in each District. Licenses have been granted to private individuals for the manufacture, during the present season, of maunds 1,30,000 in the Cuttack District, and of maunds 1,29,000 in the Balasore District.

5. The total importations into the Port of Calcutta, and clearances of sea-imported Salt, during the quarter, are shewn comparatively in the following Statement:—

DESCRIPTION OF SALT.	JULY TO SEPTEMBER 1865.		JULY TO SEPTEMBER 1866.		JULY TO SEPTEMBER 1867.	
	Imported.	Cleared.	Imported.	Cleared.	Imported.	Cleared.
	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
Liverpool Pungah	1,05,483	8,77,480	9,18,827	14,32,839	15,56,005	10,27,716
Foreign Kurkutch	71,688	1,87,216	2,66,281	2,52,418	3,10,785	2,46,382
Indian ditto	5,23,821	2,58,810	2,39,121	3,20,260	69,618	1,08,854
Ceylon ditto	...	...	13,883	...	67,470	9,490
Total	7,90,992	12,73,506	14,37,912	20,14,517	20,03,828	19,92,302

As compared with the results of the preceding quarter, there is a very marked increase in both importations and clearances; while a comparison with the figures for the corresponding quarter of the previous year shews that the clearances were only slightly less, and the importations nearly fifty per cent. in excess.

6. The following are the details of the importations and clearances of Indian Kurkutch given above:—

EXPORTING PORT.	1865.		1866.		1867.	
	Import- ed. *	Cleared.	Import- ed.	Cleared.	Import- ed.	Cleared.
	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
Kurrachee	...	8,800	...	...	...	...
Bombay	92,311	1,05,179	1,45,010	1,86,917	19,526	21,742
Madras	2,62,535	78,251	72,333	1,00,866	50,092	49,962
Ennore	13,920	14,566	21,778	41,677	...	28,500
Cocanada	50,000	18,474	...	...	...	8,650
Covelong	40,856	18,750	...	...	...	...
Eskapally	64,190	14,800	...	...	...	...
Total	5,23,821	2,58,810	2,39,121	3,29,260	69,618	1,08,854

The decline in both importations and clearances is no doubt the consequence of a falling off in the demand for Kurkutch Salt; sales being confined, as in the previous quarter, almost exclusively to the Government and Liverpool Pungah Salts.

7. The quantities of Salt which have been despatched into the interior of the country, both East and West of the River Hooghly, viz., via the border Chowkeys of Balikhal and Sankrail, and by the East Indian and Eastern Bengal Railways, are shewn in the following Comparative Statement:—

PERIOD.	Via. Balikhal.	Via. Sankrail.	By the East Indian Railway.	By the East- ern Bengal Railway.	By the Cal- cutta and South-East- ern Railway.
	Mds.	Mds.	Mds.	Mds.	Mds.
July, August, September 1865	12,39,156	1,31,539	1,27,433	...	...
Ditto ditto 1866	13,52,097	90,945	1,13,184	...	...
Ditto ditto 1867	14,01,170	1,20,031	2,03,054	6,739	48

No information is available regarding the transport of Salt by the Eastern Bengal and the Calcutta and South-Eastern Railways during the two previous years, the Salt Preventive Establishment that was formerly stationed at Sealdah, and which was re-established in April last, having been abolished in 1865. The

following Statement shows the quantities of Salt despatched by the East Indian Railway to Stations beyond Buxar in August, September, and October last:—

DATE.		Station.				Quantity.
1867.						Mds.
August	3rd ..	...	Zumaneah	...	...	300
Ditto	22nd ...	...	Mogulserai	...	...	300
Ditto	26th ...	...	Zumaneah	...	...	200
September	10th ...	...	Ditto	...	...	300
Ditto	20th ...	...	Ditto	...	...	300
October	23rd ...	...	Ditto	...	...	250
Total						1,650

8. The shipments of Salt at Liverpool appear, from published market reports, to have been in—

July	1867	...	...	...	...	Tons	21,872
August	"	...	...	...	...	"	24,491
September	"	...	...	...	...	"	17,308
Total, Tons							63,671

being an increase of 2,633 Tons over the total quantity shipped during the previous quarter.

9. The prices of Liverpool and other Salts per 100 maunds at the end to each fortnight of the quarter under review, as compared with the prices that prevailed at the same period of the previous year, are given in the following Statement:—

Description of Salt	Price on 15th July.		Price on 31st July.		Price on 15th August.		Price on 31st August.		Price on 15th September.		Price on 30th September.	
	1865.	1867.	1865.	1867.	1865.	1867.	1865.	1867.	1865.	1867.	1865.	1867.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Liverpool Pungah	111	119	115	117	123	113	126	106	123	95	117	106
French Karkutch	85	74	85	71	65	75	95	75	95	74	95	70
Juddah	90	95	100	95	104	100	101	93	98	80	93	95
Ceylon	70	81	70	80	70	62	70	62	70	60	70	60
Sciude	35	35	35	35	35	35	35	35	35	35	35	35
Bombay	29	33	30	35	31	35	40	35	39	35	39	55
Madras	45	40	49	40	48	40	48	40	44	40	41	38

10. The total quantity of Salt that was available for export or private trade at the several Madras depôts, on the first day of each of the three months

of the quarter under inquiry, and of the corresponding quarter of the two previous years, is exhibited below:—

Month.						1865.	1866.	1867.
						Maunds.	Maunds.	Maunds.
July	...	...	...	...	...	2,86,724	7,42,048	9,74,734
August	...	...	...	...	...	2,22,864	11,41,174	9,77,076
September	...	...	...	...	...	1,80,800	8,78,660	12,08,151

11. The importations into the ports of Chittagong and Balasore during the second quarter of 1866-67, amounted to maunds 16,738 of Liverpool Pungah, and maunds 30,489 of Madras Kurkutch, against maunds 27,051 of the former, and maunds 19,716 of the latter in the previous quarter in Chittagong; and to maunds 15,013 of Kurkutch only in Balasore, against maunds 7,213 in the preceding quarter.

12. The Board regret the delay that has occurred in the submission of this report, owing to a heavy pressure of work mainly attributable to the hurricane of the 1st November last.

The License Tax.

Statement of amount collected under Act XXI. of 1867 in the Lower Provinces.

PRESIDENCY.				MOFUSSIL.		Total.
	Before reported.	FOR THE WEEK ENDING		Reported to close of November 1867.	In December 1867.	
		18th January.	25th January.			
Collections	4,49,531 1 5	2,534 0 0	2,642 0 0	9,13,618	48,397	14,10,752 1 5
Deduct Refunds	25,914 6 7	1,047 0 0	838 0 0	38,019	11,140	76,949 5 7
Remaining	4,23,616 11 10	1,487 0 0	1,804 0 0	8,75,638	31,257	13,93,802 11 10
Deductions } (at the Presi- } Govern- dency by the } ment of Examiner of } India Claims) from } salaries of } servants un- } Bengal der } ... }	27,171 7 11	.....	.....	.....	.....	27,171 7 11
	21,545 15 2	.....	.....	.....	.....	21,545 15 2
Ditto at Mofussil Treasuries	.....	.....	.....	.....	.....	70,928 0 0
Ditto at other Local Offices	.....	.....	.....	.....	.....	12,190 0 0
Ditto in Military Department less refunds, Rupees 2,028-6-4	.....	.....	.....	.....	.....	10,384 10 8
Grand Total	4,75,384 2 11	1,487 0 0	1,804 0 0	8,75,638	31,257	14,87,163 12 7

Results of the Meteorological Observations taken at the Surveyor-General's Office, Calcutta, from 1st to 7th February 1868.

MONTH.	Date.	Reduced Reading of Barometer at 10 A. M.	THERMOMETER.		Daily Range of the Temperature.	Mean Temperature for the day.	Mean Wet Bulb.	Computed Mean Dew-point.	Mean Degree of Humidity for the day.	Prevailing Direction of Wind during the day.	Rain.	Max. Pressure of Wind.		GENERAL REMARKS.
			Highest Reading.	Lowest Reading.								Inches.	lb.	
Feb.	1st	30.079	73.5	61.0	12.5	66.0	60.1	54.7	0.67	N N W	...	...	...	Chiefly Clear. Foggy from 8 to 11 P. M.
	2nd	070	70.5	67.4	10.1	60.3	58.8	52.8	.61	N N E	...	...	...	Chiefly clear
	3rd	034	70.0	65.0	8.0	65.0	60.1	50.2	.75	N E	...	...	...	Overcast and scattered clouds. Slight rain at 7, 8, and Noon.
	4th	070	72.5	61.0	11.5	66.3	60.3	55.5	.70	N & N N W	...	...	...	Circumuli, canuli and clear. Slight rain at 3 A. M.
	5th	007	74.0	58.5	15.5	66.0	58.7	52.9	.65	N & N N W	...	...	...	Clear. Foggy from 8 to 11 P. M.
	6th	080	76.4	58.5	17.0	66.0	60.1	54.7	.67	N W & N N W	...	...	...	Clear. Foggy from 8 to 11 P. M.
	7th	064	77.8	59.5	18.3	68.4	61.5	56.0	.60	N	...	...	...	Clear and circumuli. Slightly foggy from midnight to 8 A. M. and from 7 to 10 P. M.

The mean Temperature and the mean Wet Bulb are derived from the twenty-four hourly Observations made during the day.

The Dew-point is computed with the Greenwich constants. The figures in column ten represent the humidity of the air, the complete saturation of which being taken at unity. The receiver of the lower rain gauge is 1 foot 2 inches, and that of the Anemometer 70 feet 10 inches, above the level of the ground.

The extreme variation of Temperature during the past seven days			...	...	20.4
The Max. Temperature during the past seven days			...	...	77.8
The Max. Temperature during the corresponding period of the past year...			...	...	83.4
The mean humidity during the past seven days			...	...	0.68
The mean humidity during the corresponding period of the past year			...	...	0.68
The total fall of rain from 1st to 7th ...			{ by lower rain gauge		Nil.
			{ by Anemometer gauge		Nil.
Ditto	ditto	from 1st to 7th, average of fourteen previous years	...	...	0.18
Ditto	ditto	between the 1st January and the 7th current	...	...	0.05
Ditto	ditto	during the corresponding period of the past year	...	...	1.13

On 10th February 1868.

GOPENATH SEN,
In charge of the Observatory.

Meteorological Report up to 31st January 1888.

STATIONS.	January.	Hour.	Barometer reduced to 32°.	THERMOMETER.		Humidity Sat. = 100.	Wind.		Rain.	WEATHER.
				Dry.	Wet.		Direction.	Velocity.		
			Inches.	⊕	⊖				Inches.	
CALCUTTA.	22nd	10	30.122	72	61	49	N	...	...	Clear.
	16	29.977	77	64	46	N	...	...	...	Ditto.
	23rd	10	30.043	71	62	57	N	...	...	Ditto.
	16	29.879	78	65	46	N	...	...	...	Scattered cirrocumuli.
	24th	10	30.071	70	62	61	N	...	...	Cirrocumuli to N. E.
	16	29.942	79	65	46	N	...	...	...	Scattered cirrocumuli.
	25th	10	30.085	72	64	62	N	...	...	Clear.
	16	29.968	78	64	42	N by E	...	...	...	Scattered cumuli.
	26th	10	30.128	72	61	48	N E	...	...	Clear.
	16	29.986	77	65	49	N	...	...	...	Ditto.
	27th	10	30.086	71	62	57	N	...	...	Cumuli.
	16	29.907	79	65	43	N	...	...	...	Cirrocumuli.
SAGOR ISLAND.	24th	10	30.017	75	67	63	N	...	...	Clear.
	16	29.879	79	68	54	N W	...	...	...	Scattered cumuli.
	29th	10	30.106	71	64	66	N	...	...	Cumuli round the horizon.
	16	29.967	79	67	50	N by E	...	...	...	Scattered cumuli.
	30th	10	30.091	74	63	61	N E	...	...	Cirrocumuli.
	16	29.949	74	65	46	N N E	...	...	...	Cumuli.
	31st	10	30.070	69	62	65	N N E	...	0.02	Ditto.
	16	29.930	69	65	79	N	...	...	0.03	Cirrocumuli.
	22nd	9-30	30.048	64	60	60	N	Light	...	Clear.
	16	29.969	76	69	68	N W	Light	...	...	Ditto.
	23rd	9-30	29.986	70	64	70	N by E	Light	...	Ditto.
	16	29.866	78	67	63	N by W	Light	...	...	Cloudy.
CHITTAGONG.	24th	9-30	30.010	69	63	70	N	Moderate	...	Partially cloudy.
	16	29.932	70	67	59	N by W	Moderate	...	...	Clear.
	25th	9-30	30.031	71	67	60	N by W	Light	...	Ditto.
	16	29.917	81	68	48	N	Light	...	...	Ditto.
	26th	9-30	30.057	71	62	57	N	Moderate	...	Ditto.
	16	29.975	79	69	61	S	Light	...	...	Ditto.
	27th	9-30	30.016	70	63	65	N E	Moderate	...	Light clouds.
	16	29.917	77	68	60	N N W	Light	...	...	Partially cloudy.
	28th	9-30	29.951	72	66	65	N by W	Light	...	Slight rain last night.
	16	29.877	81	71	59	N N W	Light	...	...	Clear.
	29th	9-30	30.023	71	66	70	N	Moderate	...	Scattered clouds.
	16	29.854	70	70	61	N by W	Moderate	...	...	Ditto.
CHITTAGONG.	30th	9-30	30.021	71	66	70	N E by E	Light	...	Ditto.
	16	29.934	79	70	61	S	Light	...	...	Clear.
	31st	9-30	30.003	71	64	66	N	Light	...	Scattered clouds.
	16	29.930	72	69	65	N by W	Light	...	...	Partially cloudy, slight rain, thunder and lightning at noon.
	22nd	9-30	29.962	65	62	63	N	Light	...	Hazy.
	16	29.856	71	69	75	N W	Light	...	...	Ditto.
	23rd	9-30	29.962	65	62	74	N N E	Light	...	Ditto.
	16	29.791	73	66	71	N W	Light	...	...	Cirrocumuli towards S. & W.
	24th	9-30	29.894	68	65	84	N W	Light	...	Clouds.
	16	29.829	70	69	89	N by S	Light	...	...	Cirrocumuli.
	25th	9-30	29.927	67	64	84	N W by W	Light	...	Thick fog this morning, but clear yet.
	16	29.854	71	68	85	N W	Light	...	...	Hazy.
CHITTAGONG.	26th	9-30	29.951	69	61	80	N	Moderate	...	Ditto.
	16	29.834	72	65	66	N W	Light	...	...	Clear.
	27th	9-30	29.910	67	62	74	N E by N	Light	...	Hazy.
	16	29.817	71	65	70	N by S	Light	...	...	Cumulostrati.
	28th	9-30	29.878	70	64	70	N	Light	...	Hazy.
	16	29.770	74	67	67	N	Light	...	...	Ditto.
	29th	9-30	29.849	70	65	75	N	Light	...	Ditto.
	16	29.816	74	66	63	N W by N	Light	...	...	Ditto.
	30th	9-30	29.924	69	63	70	N W	Light	...	Ditto, changing wind.
	16	29.811	73	67	71	N W	Light	...	...	Ditto.
	31st	9-30	29.934	69	65	79	N	Light	...	Cirrocumuli, a few drops of rain this morning, not insupportable.
	16	29.881	73	68	76	N W	Light	...	...	Hazy, cumuli.
AYR.	22nd	9-30	30.024	68	66	69	N E	Light	...	Fine and pleasant.
	16	29.908	78	70	66	N W	Light	...	...	Ditto ditto.
	23rd	9-30	29.996	71	67	80	N E	Light	...	Ditto ditto.
	16	29.865	70	72	60	N	Light	...	...	Ditto ditto.
	24th	9-30	29.913	72	68	80	N E	Light	...	Ditto ditto.
	16	29.808	77	70	68	N	Moderate	...	...	Ditto ditto.
	25th	9-30	29.961	73	68	76	N E	Light	...	Ditto ditto.
	16	29.808	74	72	73	N	Light	...	...	Ditto ditto.
	26th	9-30	29.963	72	68	80	N E	Light	...	Ditto ditto.
	16	29.840	77	70	68	N E	Light	...	...	Ditto ditto.
	27th	9-30	29.940	70	67	84	N E	Light	...	Ditto ditto.
	16	29.808	77	69	64	N W by W	Light	...	...	Ditto ditto.
AYR.	28th	9-30	29.921	73	67	71	N	Light	...	Horizon cloudy to the S.
	16	29.842	79	70	61	N by N	Light	...	...	Fine.
	29th	9-30	29.978	74	68	73	N E	Light	...	...
	16	29.887	81	73	66	N	Light	...	...	...
	30th	9-30	29.921	73	67	71	N E	Light	...	...
	16	29.865	78	71	65	N	Light	...	...	...
	31st	9-30	29.975	78	71	65	N E	Light	...	...
	16	29.885	79	71	65	N	Moderate.	...	...	...

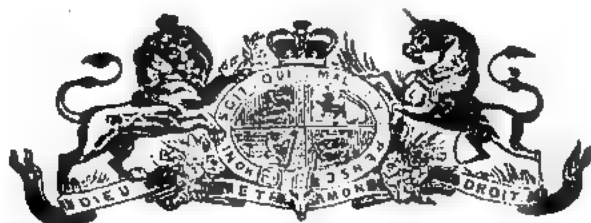
STATIONS.	January.	Hour.	Barometer reduced to 32°.	THERMOMETER.		WIND.	Rain.	WEATHER.
				Dry.	Wet.			
			Inches.	⊖	⊕	Direction.	Velocity.	Inches.
AUGUSTA.	22nd	9-30	30.163	68	63	E by S	Light	...
	16	8-30	30.003	78	68	E by N	Light	...
	23rd	16	30.054	69	63	N W by N	Light	...
	24th	9-30	30.108	71	62	E S E	Moderate	...
	25th	16	30.025	78	63	E by N	Light	...
	26th	9-30	30.111	70	64	E	Light	...
	27th	16	30.015	77	65	E by S	Light	...
	28th	9-30	30.135	72	60	E	Light	...
	29th	16	30.010	78	69	E by N	Light	...
	30th	9-30	30.093	72	67	E	Light	...
MAINE.	21st	16	30.068	76	62	S	Light	...
	22nd	9-30	30.043	72	63	N W by W	Light	...
	23rd	16	30.050	78	68	E by S	Moderate	...
	24th	9-30	30.103	73	68	E N E	Moderate	...
	25th	16	30.093	78	68	E S E	Light	...
	26th	9-30	30.100	74	69	E by N	Light	...
	27th	16	30.080	78	68	S W by W	Light	...
	28th	9-30	30.129	69	60	N W by W	Light	...
	29th	16	30.095	76	66	N by W	Light	...
	30th	9-30	30.008	81	70	N N E	15*	...
MAINE.	21st	16	30.009	81	70	N E	15*	...
	22nd	16	30.061	79	73	N E by N	10*	...
	23rd	16	30.032	80	74	N E	12*	...
	24th	16	30.049	73	72	N E	8*	...
	25th	16	30.013	75	74	N E by N	10*	...
	26th	16	30.087	76	75	N E by N	12*	...
	27th	16	30.084	78	75	N E by E	12*	...
	28th	16	30.018	81	75	E by N	8*	...
	29th	16	30.010	81	74	N E	10*	...
	30th	16	30.003	81	74	N E	11*	...
MAINE.	21st	16	30.082	81	74	N E by N	7*	...
	22nd	16	30.074	81	71	N E	7*	...
	23rd	16	30.069	80	72	N E	8*	...
	24th	16	30.093	82	74	N E	10*	...
	25th	16	30.091	81	74	N E	10*	...
	26th	16	30.018	82	74	N E	8*	...
	27th	16	30.000	81	74	N E	8*	...
	28th	16	30.030	82	75	N E	8*	...
	29th	16	30.022	83	75	N E	10*	...
	30th	16	30.076	81	67	E	Light	...
MAINE.	21st	16	30.077	69	61	S E	Light	...
	22nd	16	30.015	62	59	S E	Light	...
	23rd	16	30.040	65	62	E	...	...
	24th	16	30.060	69	63	W	Moderate	...
	25th	16	30.056	75	60	N W	Light	...
	26th	16	30.008	63	61	S W	Light	...
	27th	16	30.005	72	58	N W	Light	...
	28th	16	30.001	64	57	N E	...	...
	29th	16	30.033	66	58	W	Moderate	...
	30th	16	30.039	65	61	E	Moderate	...
MAINE.	21st	16	30.079	71	63	E	Moderate	...
	22nd	16	30.073	68	59	N W	...	...
	23rd	16	30.074	61	50	S W	Moderate	...
	24th	16	30.026	57	59	S W	Light	...
	25th	16	30.079	59	58	S	...	...
	26th	16	30.060	63	57	N E	Light	...
	27th	16	30.046	60	59	S E	Moderate	...
	28th	16	30.073	64	60	W	Moderate	...
	29th	16	30.007	68	61	S W	Moderate	...
	30th	16	30.177	61	56	N W	...	...
MAINE.	21st	16	30.093	70	60	N W	...	...
	22nd	9-30	30.088	64	59	Calms	...	...
	23rd	16	30.011	63	59	S W	...	...
	24th	9-30	30.075	67	63	W	...	...
	25th	16	30.128	60	55	W	...	...
	26th	9-30	30.108	61	55	Calms	...	...
	27th	16	30.118	70	58	N W	...	...
	28th	9-30	30.150	63	57	S W	...	...
	29th	16	30.095	72	59	Calms	...	...
	30th	9-30	30.147	63	49	S W	...	...
MAINE.	21st	16	30.060	56	51	Calms	...	...
	22nd	9-30	30.147	63	49	S W	...	...

Velocity in miles per hour.

STATION.	December.	Hour.	Barometer reduced to 32°.	THERMOMETER.		Humidity Sat. = 100.	WIND.		Rain.	WEATHER.
				Dry.	Wet.		Direction.	Velocity.		
ROCKHILL.	28th	9-30	29-203	58	52	64	N W	...	0.43	Morning bright and clear, the snowy range was seen with great distinctness. The Mussoorie Hills are covered with snow.
		16	29-080	60	50	49	S W	...	...
	29th	9-30	29-145	60	53	59	Calm	...	...	Sky cloudy from 1 P.M.
		16	29-066	60	57	43	Calm	...	...
	30th	9-30	29-138	62	58	66	Calm	...	...	Cloudy from 1 P.M.
		16	29-069	61	55	65	S W	...	...
	31st	9-30	29-148	59	53	61	Calm	...	...	Clear. Frosty morning.
		16	29-117	64	54	47	S W	...	...
	22nd	9-30	29-328	45	42	76	E	light	...	Misty.
	23rd	9-30	29-291	41	40	81	W by S	light	...	Cirrocumuli, frosty morning.
DARJEELING.	24th	9-30	29-212	46	43	84	W	light	...	Misty.
		16	29-291	41	40	81	S W	light	0.05	Ditto, a slight shower of rain between 4 & 5 A.M., snow on hills towards W.
	25th	9-30	29-210	44	41	75	W	Moderate	...	Cirrocumuli, nimbi, and low clouds from S. W.
		16	29-273	43	41	...	E S E	light	...	Woolly cumuli resting off hills towards W., otherwise clear.
	26th	9-30	29-237	53	47	60	W by S	light	...	Cumuli, nimbi.
		16	29-320	44	41	73	E	light	...	Scattered cumuli. Frosty morning.
	27th	9-30	29-264	47	42	62	W	light	...	Misty.
		16	29-394	44	43	91	Calm	...	...	Covered with cirri.
	28th	9-30	29-219	46	44	81	W by N	light	...	Misty.
		16	29-253	42	39	74	S W	light	...	Cumuli round horizon. Frosty morning.
Dacca.	29th	9-30	29-182	62	45	63	S W	Moderate	...	Ditto ditto. Rest clear.
		16	29-310	43	40	76	E S E	light	...	Clear, frosty morning.
	30th	9-30	29-262	54	47	65	N W	light	...	Scattered cumuli.
		16	29-310	45	42	76	S E	light	...	Covered with cirri, frosty morning.
	31st	9-30	29-277	48	44	70	E S E	light	...	Misty.
		16	29-311	38	37	81	S E	light	...	Ditto.
	22nd	9-30	29-071	69	63	70	N	...	...	Severe thunder and lightning.
		16	29-070	70	64	65	N	...	...	Misty.
	23rd	9-30	29-064	70	64	70	N	...	...	Light wind. Clear.
		16	29-074	72	64	62	N N W	...	...	Ditto ditto.
FALM POINT.	24th	9-30	29-066	71	61	66	N	...	...	Ditto ditto.
		16	29-081	73	65	61	N	...	...	Moderate wind. Partially cloudy.
	25th	9-30	29-090	70	65	75	N	...	...	Calin. Cloudy.
		16	29-095	69	62	69	S	...	...	Moderate wind.
	26th	9-30	29-071	69	67	69	N N E	...	...	Light wind.
		16	29-074	72	63	68	N W	...	...	Ditto. Partially cloudy.
	27th	9-30	29-080	70	61	67	N N W	...	...	Moderate wind.
		16	29-087	67	63	79	N	...	...	Light wind.
	28th	9-30	29-074	72	61	62	N N W	...	...	Ditto.
		16	29-070	74	66	63	N W	...	...	Ditto.
	29th	9-30	29-070	71	65	66	N	...	...	Ditto.
		16	29-061	73	64	64	N	...	...	Ditto.
	30th	9-30	29-080	70	64	70	N	...	...	Ditto.
		16	29-061	73	63	80	N W	...	...	Ditto.
	31st	9-30	29-081	69	64	71	N N W	...	...	Moderate wind, cloudy.
		16	29-070	70	60	79	W	...	...	Calin. Very cloudy whole day.
	19th	9-30	29-083	72	67	75	N N W	...	...	Light air and fine.
		16	29-084	74	69	76	E	...	...	Ditto winds and fine.
	20th	9-30	29-071	72	68	80	N E	...	...	Ditto weather.
		16	29-063	72	68	80	E N E	...	...	Ditto ditto.
	21st	9-30	29-013	72	69	85	N E	...	...	Ditto winds and fine.
		16	29-041	73	68	78	E N E	...	...	Ditto weather.
	22nd	9-30	29-053	72	69	85	Variable	...	...	Ditto ditto.
		16	29-011	73	67	71	S E	...	...	Ditto ditto.
	23rd	9-30	29-050	71	67	80	N E	...	...	Ditto ditto.
		16	29-014	72	67	73	E	...	...	Ditto ditto.
	24th	9-30	29-051	73	67	71	N N E	...	...	Ditto ditto.
		16	29-051	73	67	71	N N E	...	...	Fresh breeze and looking like rain.
	25th	9-30	29-046	71	68	85	N E	...	...	Fresh weather.
		16	29-046	71	68	85	E	...	...	Light ditto.
		16	29-041	73	69	80	E	...	...	Ditto ditto.

BENGAL SECRETARIAT,
The 5th February 1856. }

HENRY F. BLANFORD,
Meteorological Reporter to Govt. of Bengal



SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, FEBRUARY 19, 1868.

OFFICIAL PAPERS.

Non-Subscribers to the GAZETTE may receive the SUPPLEMENT separately on a payment of six Rupees per annum if delivered in Calcutta, or twelve Rupees if sent by Post.

Registration in the District of Chittagong.

From H. BEVERLEY, Esq., Registrar-General, Lower Provinces, to the Secretary to the Government of Bengal,—(No. 288, dated Fort William, the 17th January 1868.)

I HAVE the honor to forward, for the information of Government, the accompanying extract (paragraphs 7 and 9) from Mr. Geddes' Inspection Report of the Nazir-ka-hât Sub-Registry Office in the District of Chittagong.

2. The movement of which Mr. Geddes speaks is doubtless very suggestive, and it is to be hoped will result in the increased prosperity of the actual cultivators. It serves also to explain the enormous amount of registration which has taken place of late in this District, (upwards of 2,000 documents having been presented in November last,) and would seem to indicate that the present average is not likely to be permanent.

Extract from the Report of the inspection of the Nazir-ka-hât Sub-Registrar's Office held by the Registrar on the 6th January 1868.

PARA. 7.—“I must now make a few remarks on the nature of the registration business which is now going on in this District, especially here, as disclosed by the registration statistics. Of the 1,432 deeds registered here in November and December, only 204 related to bonds, marriage settlements, deeds of sale, &c. All the other deeds, 1,228 were leases newly granted. Again, of these 1,228 leases only six were for limited terms, namely, five leases for terms of one year or over, and one lease for a term of one year. The remainder of the leases, 1,222 in number, being 85 per cent. of the whole registration work, are perpetual leases. I believe the greater part of the documents at the other Sub-Registry Offices of this District are of the same nature. If that is so, the whole District is in a ferment with registrations of an important character, which it will be interesting to watch. The other special Sub-Registrar has not called my attention to the circumstance. From the explanation given by Baboo Nilmony Dass, in answer to my enquiries, I am led to believe that the nature of the process is as follows.

As soon as each of the holders of the 32,000 odd Nowabad tenures of this District obtains a permanent settlement of his cultivated land under the famous Proclamation of Sir Cecil Beadon, he proceeds to conclude a similarly

Information regarding the acquisition of Land in Tasmania.

From J. GREENE, Esq., Under-Secretary to the Government of India, Home Department, to the Officiating Secretary to the Government of Bengal.—(No. 10, dated Fort William, the 20th January 1868.)

I AM directed to forward, for the information of the Government of Bengal, for circulation to the Civil Authorities, and for distribution to the Press, the accompanying copy of the letter marginally noted, with 60 copies of its accompaniments.

From the Colonial Secretary, Tasmania, to E. C. BAYLEY, Esq., Secretary to the Government of India, Home Department.—(dated the 25th November 1867.)

It having been brought to the notice of this Government that Officers of Her Majesty's Indian Services, Civil and Military, as well as other English gentlemen resident in India but unconnected with State employment, would, in many instances, prefer eventual settlement in this or the neighbouring Colonies to a return to England, provided that some facility for so settling themselves were afforded, the Parliament of Tasmania has, in its recent Session, endeavoured to secure for intending emigrants from India such advantages as shall meet their requirements, and dispose them to select this Island as their future home; and with this view has passed two Acts, Nos. XXVI. and XXVII. of 31st Victoria, copies of which I do myself the honor to enclose.

I also forward herewith 49 copies of a Notification from the Colonial Commissioner of Crown Lands (with Maps attached), giving a précis of the above two Acts of the local Legislature, and other information relative to settlement in the Colony generally, and specially in the district of "Castra," which has been reserved, for a period, solely for occupation by gentlemen from India on the terms set forth.

Of course, the whole of the unoccupied portions of the Island are equally open for selection by Indian settlers, should they prefer any other district to that of "Castra."

It is the wish of this Government that the course adopted by the Tasmanian Parliament, and its motive, shall be made fully known throughout the whole of British India; and I would therefore request the favor of your kindly taking such steps as shall insure the attainment of this object.

By the Mail of next month I trust to forward twelve hundred additional copies of the accompanying Map and Notification attached, and I shall feel greatly obliged by your having the same distributed to every Regiment, to every Civil Station, to the Public Prints, and (as far as their number will suffice) to every Authority throughout the three Presidencies.

SURVEY DEPARTMENT,

Hobart Town, Tasmania, 20th November 1867.

The following information respecting the method of acquiring land in that part of Tasmania known as Castra is published, by the direction of the Honorable Colonial Treasurer, for the use of intending immigrants from India.

J. B. CALDER,

Surveyor-General and Commr. of Crown Lands.

UNDER the provisions of Act No. XXVII. of 1867, the land comprised within the limits of Castra, as shewn on the Map attached, is reserved for three years, solely for the settlement of Europeans who may come, or intend to come, from India to establish themselves in Tasmania.

Land in this area may be selected by or on behalf of such persons under the provisions of the 19th Section of "The Waste Lands' Act, 1863," and in case such persons on arrival in Tasmania become entitled to land under any Act relating to Immigration, then every such person may claim a remission of one pound in the purchase-money of the land selected under this Act for every acre of land to which he is entitled under such Immigration Act.

Upon five thousand acres of land or upwards being selected in this area, the Governor shall cause to be expended in making roads and bridges in or to such area any sum not exceeding ten shillings for every acre of land so selected.

By the Immigration Act No. XXVI. of 1867, it is provided that any person arriving in the Colony with the intention of settling therein, from Europe or India, whose passage money to the Colony is paid by himself as a cabin or intermediate passenger, shall, at any time within twelve months after his arrival in the Colony, be entitled to demand from the Board of Immigration, and shall thereupon receive a certificate authorising such person to select Thirty acres of land; and in case such person arrives under the circumstances aforesaid with a family, then such person shall be entitled to a further certificate authorizing him to select twenty acres within twelve months after the arrival of his wife (if any), and also a further certificate authorising him to select ten acres in respect of each child within twelve months after the arrival of such child in Tasmania; and every such certificate shall be received in payment by the Commissioner of Crown Lands for the purchase-money of any Waste Lands selected by virtue of such certificate for purchase under the 19th Section of "The Waste Lands' Act, 1863."

No person who pays the purchase-money for any Waste Lands of the Crown by virtue of any such Land Order, or who selects land under any such certificate as aforesaid, shall be entitled to claim a grant from the Crown of the land so paid for or selected until he has resided for five years in Tasmania; Provided that in case he should die before he has resided for five years in Tasmania, his heir-at-law or devisee, as the case may be, shall be forthwith entitled to a grant of the said land: And provided further, that in case any such person ceases to reside in Tasmania before the expiration of five years after his arrival, the land so purchased by virtue of any such Land Order or selected under any such certificate, shall revert to the Crown and become Waste Land.

The 19th Section of the Waste Lands' Act of 1863, referred to above, gives a right to every person to purchase privately up to three hundred and twenty acres of land at the fixed price of one pound per acre, in one or more lots, all adjoining. Sale to be void if made in contravention of the provisions of the Act; and in case of forfeiture of land on this account, so much of the purchase-money as may have been paid thereon to be forfeited.

By the same Act it is also provided, *Sec. 27:—Purchasers wishing to take credit must pay

Information regarding the acquisition of Land in Tasmania.

From J. GROCHMANN, Esq., Under-Secretary to the Government of India, Home Department, to the Officiating Secretary to the Government of Bengal.—(No. 11, dated Fort William, the 20th January 1868.)

I AM directed to forward, for the information of the Government of Bengal, for circulation to the Civil Authorities, and for distribution to the

Press, the accompanying copy of the letter marginally noted, with 60 copies of its accompaniments.

From the Colonial Secretary, Tasmania, to E. C. BAYLEY, Esq., Secretary to the Government of India, Home Department,—(dated the 25th November 1867.)

It having been brought to the notice of this Government that Officers of Her Majesty's Indian Services, Civil and Military, as well as other English gentlemen resident in India but unconnected with State employment, would, in many instances, prefer eventual settlement in this or the neighbouring Colonies to a return to England, provided that some facility for so settling themselves were afforded, the Parliament of Tasmania has, in its recent Session, endeavoured to secure for intending emigrants from India such advantages as shall meet their requirements, and dispose them to select this Island as their future home; and with this view has passed two Acts, Nos. XXVI. and XXVII. of 31st Victoria, copies of which I do myself the honor to enclose.

I also forward herewith 49 copies of a Notification from the Colonial Commissioner of Crown lands (with Maps attached), giving a precis of the above two Acts of the local Legislature, and other information relative to settlement in the Colony generally, and specially in the district of "Castra," which has been reserved, for a period, solely for occupation by gentlemen from India on the terms set forth.

Of course, the whole of the unoccupied portions of the Island are equally open for selection by Indian settlers, should they prefer any other district to that of "Castra."

It is the wish of this Government that the course adopted by the Tasmanian Parliament, and its motive, shall be made fully known throughout the whole of British India; and I would therefore request the favor of your kindly taking such steps as shall insure the attainment of this object.

By the Mail of next month I trust to forward twelve hundred additional copies of the accompanying Map and Notification attached, and I shall feel greatly obliged by your having the same distributed to every Regiment, to every Civil Station, to the Public Prints, and (as far as their number will suffice) to every Authority throughout the three Presidencies.

SURVEY DEPARTMENT,

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By the same Act it is also provided, *Sec. 27:—Purchasers wishing to take credit must pay

so at time of sale, otherwise they will be treated as cash purchasers.

The following is the mode of payment for a cash purchase:—One-fifth of purchase-money to be paid down at sale as a deposit, and the residue of purchase-money within one month thereof. Failing the payment of such residue the deposit to be forfeited and land revert to the Crown.

By Sections 28 and 29, purchasers of land by private contract may, at their own option, pay in cash or take credit for the same, and if credit, the terms shall be as under:—

The sale price of land to be increased by one-fifth as the cost of credit; one-fifth of this sum to be paid down at once as deposit, and the remainder in eight equal annual instalments.

Thus, a credit purchaser of £100 would be required to pay according to the following:—

EXAMPLE:

	£.	s.	d.
Sale price of Land ...	100	0	0
Add one-fifth as cost of credit ...	20	0	0
Total price ...	120	0	0

One-fifth of £120 to be paid as deposit ... 24 0 0

Leaving £96 to be paid off in eight equal annual instalments, each of... 12 0 0

The deposit is to be paid at time of sale or of signing the contract, and the first instalment twelve months afterwards, and so on.

Castra is situated inland, about 12 miles from the Port of Ulverstone, which again by sea is about 220 miles from Melbourne, and 80 from Launceston. From Launceston to Hobart Town, 121 miles, there is an excellent macadamised road, and several public conveyances running thereon. From Launceston to Deloraine, and thence to Torquay, (16 miles east of Ulverstone,) two lines of Railway are in progress.

NOTE.—A Map shewing approximately the position of the reserved lands will be shown to any person desirous of seeing it, on application at the Office of the Secretary to the Government of Bengal.

Results of the Meteorological Observations taken at the Surveyor-General's Office, Calcutta, from 8th to 14th February 1868.

Month.	Date.	Reduced Reading of Barometer at 10 A. M.	THERMOMETER.		Daily Range of the Temperature.	Mean Temperature for the day.	Mean Wet Bulb.	Computed Mean Dew-point.	Mean Degree of humidity for the day.	Prevailing Direction of Wind during the day.	Rain.		GENERAL REMARKS.
			Highest Reading.	Lowest Reading.							Inches.	lb.	
Feb.	8th	30.135	77.5	63.5	14.0	69.0	64.2	68.0	0.71	S N & N E	...	...	Chiefly cirrocumuli.
	9th	30.155	78.5	64.0	14.5	70.5	64.3	69.3	.69	N E & N	...	...	Scattered cumuli and clear.
	10th	30.124	78.8	62.0	16.8	69.9	63.0	67.5	.68	N W & S W	...	...	Clear and cool.
	11th	30.106	79.2	63.5	15.7	71.2	65.0	61.1	.73	S S W & W by N	...	...	Clear and scattered cumuli. Slightly foggy at 8 A. M.
	12th	30.068	81.7	67.0	14.7	72.8	68.0	64.2	.75	W	...	...	Clear, Overcast, and scattered cumuli. Foggy from 3 to 6 and at 8 P. M.
	13th	30.001	84.3	69.3	15.0	75.4	70.5	67.1	.76	S W & S	...	...	Chiefly cumuli.
	14th	30.083	83.8	71.2	12.6	76.2	71.7	68.5	.78	Variable.	...	...	Cumuli and clear. Slightly foggy at 8 P. M.

The mean Temperature and the mean Wet Bulb are derived from the twenty-four hourly Observations made during the day.

The Dew-point is computed with the Greenwich constants. The figures in column ten represent the humidity of the air, the complete saturation of which being taken at unity. The receiver of the lower rain gauge is 1 foot 11 inches, and that of the Anemometer 70 feet 10 inches, above the level of the ground.

The extreme variation of Temperature during the past seven days	...	...	22.3
The Max. Temperature during the past seven days	...	...	84.3
The Max. Temperature during the corresponding period of the past year...	...	...	48.6
The mean humidity during the past seven days	...	...	0.72
The mean humidity during the corresponding period of the past year	...	...	0.72
Inches.			
The total fall of rain from 8th to 14th ... { by lower rain gauge			
by Anemometer gauge *			
Ditto ditto from 8th to 14th, average of fourteen previous years	...	...	0.41
Ditto ditto between the 1st January and the 14th current	...	...	0.05
Ditto ditto during the corresponding period of the past year	...	...	1.13

The 15th February 1868.

GOPPENAUH SEN,
In charge of the Observatory.

Meteorological Report up to 7th February 1888.

STATION.	February.	Hour.	Barometer reduced to 32°.	THERMOMETER.		Humidity Sat. = 100.	WIND.		Rain.	WEATHER.
				Dry.	Wet.		Direction.	Velocity.		
CALCUTTA.	1st	10	30.079	67	68	65	N	...	...	Clear.
		16	30.078	73	69	43	N N W	...	...	Ditto.
	2nd	10	30.079	64	69	55	N N E	...	...	Ditto.
		16	30.079	75	62	41	N N E	...	...	Ditto.
	3rd	10	30.031	66	61	78	N N E	...	...	Overcast.
		16	30.028	69	69	60	E by S	...	...	Covered. Cumulo strati.
	4th	10	30.079	69	61	60	N	...	...	Cirrocumuli round the horizon.
		16	30.031	73	63	51	N W	...	...	Scattered cumuli.
	5th	10	30.037	64	69	60	N N W	...	...	Clear.
		16	30.043	73	69	42	N N W	...	...	Ditto.
	6th	10	30.089	64	69	65	N W	...	...	Ditto.
		16	30.021	76	63	44	N	...	...	Ditto.
	7th	10	30.064	71	62	47	N	...	...	Ditto.
		16	29.956	78	64	42	N	...	...	Ditto.
SALGON ISLAND.	1st	0-30	30.012	68	69	25	N	Moderate	...	Ditto.
		16	29.934	75	63	47	N by W	Light	...	Ditto.
	2nd	0-30	30.001	64	69	65	E	Moderate	...	Ditto.
		16	29.933	75	60	59	W	Light	...	Ditto.
	3rd	0-30	29.979	66	61	80	N E	Light	...	Rainy.
		16	29.921	66	61	80	E	Light	...	Clouds from E, wet day.
	4th	0-30	30.007	66	60	83	N	Light	...	Clouds from N. to S.
		16	29.948	73	66	76	N W by N	Light	...	Scattered clouds.
	5th	0-30	30.061	67	61	69	N	Light	...	Clear.
		16	29.938	74	63	61	N	Light	...	Ditto.
	6th	0-30	30.028	68	61	79	N W by N	Light	...	Ditto.
		16	29.912	76	68	61	N W by N	Light	...	Ditto.
	7th	0-30	30.082	69	66	81	N	Light	...	Ditto.
		16	29.913	76	75	95	S W	Light	...	Ditto.
CHITTAGONG.	1st	0-30	29.940	69	64	74	N	Light	...	Hazy.
		16	29.834	73	68	76	S W	Light	...	Cloudy horizon.
	2nd	0-30	29.919	67	62	74	N	Light	...	Hazy.
		16	29.821	71	64	68	S W	Light	...	Cirrocumuli.
	3rd	0-30	29.992	66	61	63	N	Light	...	Cumulo strati.
		16	29.869	68	64	79	N E by N	Light	...	Overcast, threatening all day, a few drops of rain at 12.
	4th	0-30	29.916	65	62	83	W by N	Light	...	Cumuli.
		16	29.829	69	64	71	W	Light	...	Cirrocumuli.
	5th	0-30	29.911	67	61	79	S by E	Light	...	Hazy, scattered cumuli.
		16	29.840	70	61	70	S W	Light	...	Clear.
	6th	0-30	29.993	65	60	73	N	Light	...	Hazy.
		16	29.826	69	62	70	W S W	Light	...	Ditto.
	7th	0-30	29.919	67	61	79	N by W	Light	...	Ditto.
		16	29.850	71	67	80	W by S	Light	...	Ditto.
AMBAR.	1st	0-30	29.971	73	69	60	N	Moderate	...	Fine and pleasant.
		16	29.885	70	70	61	W	Light	...	Ditto.
	2nd	0-30	29.989	70	68	69	N E	Light	...	Ditto.
		16	29.876	75	66	69	W	Light	...	Ditto.
	3rd	0-30	29.974	64	65	64	N E	Light	...	Fine.
		16	29.883	76	69	68	W S W	Light	...	Cirrocumuli.
	4th	0-30	29.986	71	66	75	E	Light	...	Horizon cloudy from East to South.
		16	29.910	76	69	68	W	Light	...	Cloudy overhead.
	5th	0-30	29.939	70	65	75	N E	Light	...	Fine.
		16	29.893	75	66	69	W	Moderate	...	Ditto.
	6th	0-30	29.907	67	64	64	E	Light	...	Ditto.
		16	29.883	70	67	60	W N W	Light	...	Ditto.
	7th	0-30	29.911	64	66	69	N E	Light	...	Ditto.
		16	29.927	78	70	65	W	Light	...	Ditto.
CHITTAGONG.	1st	0-30	30.083	70	64	70	E	Light	...	Covered with cirrocumuli and cirri since morning and cloudy.
		16	29.971	75	67	64	E S E	Light	...	Cirrocumuli and cirrostrati.
	2nd	0-30	30.067	73	65	62	E N E	Moderate	...	Cumuli and cirri round horizon, unsteady wind.
		16	29.915	77	67	56	E S E	Moderate	...	Cirrostrati cirrocumuli, equally from E. and cloudy.
	3rd	0-30	30.023	72	70	60	E by N	Light	...	Rain at 4.30 A. M., not measurable. Distant Thunder in S. W. cirrocumuli and cumuli since morning.
		16	29.907	77	71	73	E by N	Light	...	Cumulo strati, Cirrostrati and cirri.
	4th	0-30	30.086	71	65	70	N by W	Light	...	Scattered cirri and cumuli.
		16	29.963	77	69	70	N N W	Moderate	...	Cirrostrati, cirrocumuli. Unsteady wind.
	5th	0-30	30.129	69	69	61	E by N	Moderate	...	Unsteady wind, clear.
		16	30.012	73	61	43	E by S	Light	...	Thin cirri to S. E. and N. W. horizon.
	6th	0-30	30.113	70	62	61	E by S	Light	...	Fine clear sky.
		16	29.982	75	64	61	E	Light	...	Fine cloudless sky.
	7th	0-30	30.080	71	66	75	E by S	Light	...	Scattered cirri and cumuli to S. W. and N. W. horizon.
		16	29.998	71	69	85	S by E	Light	...	Unsteady wind; cirri and cumuli.

• Rain gauge sent up for repair.

STATION.	February.	Hour.	Barometer reduced to 32°.	THERMOMETER.		Humidity Sat. = 100.	WIND.		Rain.	WEATHER.
				Dry.	Wet.		Direction.	Velocity.		
MADAG.			Inches.	°	°				Inches.	
	1st	10	30.003	82	75	70	E N E	5*	...	Passing clouds.
		16	29.981	82	74	60	N E	12*	...	Fine.
	2nd	10	29.977	81	73	60	E S E	7*	...	Passing clouds.
		16	29.971	81	74	70	S E	8*	...	Fine.
	3rd	10	29.988	82	75	70	S S W	10*	...	Fine with passing clouds.
		16	29.941	81	76	78	S E	11*	...	Fine.
	4th	10	30.005	83	77	83	S W	10*	...	Passing clouds.
		16	29.983	83	77	73	S E by E	6*	0.03	Fine.
	5th	10	30.003	82	75	70	S E	3*	...	Passing clouds.
		16	29.984	83	76	71	E	11*	...	Fine with light clouds.
	6th	10	30.009	82	73	63	E S E	9*	...	Passing clouds.
		16	29.982	82	75	70	E by S	12*	...	Fine with light clouds.
	7th	10	30.023	81	72	62	E by S	7*	...	Passing clouds.
		16	29.923	81	73	66	E	10*	...	Fine with light clouds.
BOMBAY.	1st	10	29.845	69	58	77	W	Light	...	Cirri Strati.
		16	29.743	69	58	47	W	Light	...	Iditto ditto.
	2nd	10	29.810	67	53	55	E	Moderate	...	Cumuli, strati, cirrostrati.
		16	29.745	70	60	62	N E	...	...	Cumulostrati, strati.
	3rd	10	29.819	63	58	72	N W	...	...	Cumuli, cumulostrati, strati.
		16	29.733	68	69	55	N W	...	...	Cumuli, cirrocumuli.
	4th	10	29.843	64	60	78	W	...	...
		16	29.777	71	69	46	W	Light	...	Strati.
	5th	10	29.860	66	57	54	W	...	...
		16	29.798	71	60	39	W	...	...	Strati.
	6th	10	29.894	68	54	61	S E	...	...	Cirri.
		16	29.674	76	69	41	N E	light	...	Strati.
	7th	10	29.760	69	63	74	S E	...	...	Cumuli, strati.
		16	29.712	69	64	71	W	Light	...	Cumuli.
Dacca.	1st	9-30	29.903	72	60	71	N	...	...	Light wind.
		16	29.951	69	64	74	N N W	...	...	Iditto.
	2nd	9-30	29.971	69	67	81	N	...	...	Calm and clear.
		16	29.972	69	69	66	N N W	...	...	Light wind.
	3rd	9-30	29.907	67	60	61	N N E	...	...	Iditto.
		16	29.864	68	60	69	N N W.	...	...	Calm; very cloudy.
	4th	9-30	29.977	67	61	69	N N W	...	...	Calm.
		16	29.881	64	62	63	N N W	...	...	Light wind.
	5th	9-30	29.977	67	61	69	N	...	...	Iditto.
		16	29.854	68	62	60	N N W	...	...	Iditto.
	6th	9-30	29.907	67	62	71	N	...	...	Iditto.
		16	29.882	62	69	65	W	...	...	Light wind; clear.
	7th	9-30	29.974	68	61	74	N N W	...	...	Iditto ditto.
		16	29.868	71	65	70	N W	...	...	Iditto; partially cloudy.
Rangoon.	1st	9-30	29.960	65	55	80	Calm	...	...	Cloudy day.
		16	29.900	63	51	61	N W	...	...
	2nd	9-30	29.984	61	65	65	S E	...	...	Cloudy morning, slight thunder storm at 15 hours; rain between 15-45 and 16 hours and between 18 and 19 hours.
		16	29.927	69	61	70	N W	...	...
	3rd	9-30	29.150	60	62	61	W	...	0.07	Clear bright morning, snowy range even with extreme clearness.
		16	29.090	66	55	47	N W	...	...
	4th	9-30	29.180	60	54	65	Calm	...	...	Dense fog all the morning but clearing away at 8-30 hours.
		16	29.076	67	56	45	N W	...	...
	5th	9-30	29.110	61	56	71	Calm	...	...	Clouds gathering from 12 on to 18, rain at 18-30 in (ing till between 22 and 23 hours.
		16	29.017	66	60	49	N W	...	...
	6th	9-30	29.065	69	56	61	N E	...	0.10	Cloudy all day; heavy rain from 14 lasting till 7 next morning.
		16	28.944	61	57	73	N E	...	...
	7th	9-30	29.079	69	55	76	N E	...	2.04	Rain from last night continued till 7 hours, clouds clearing away after that.
		16	29.042	68	68	61	S W	...	...
Dahlgren.	1st	9-30	29.193	40	39	91	S E	Light	6.3	Clear. A pretty good fall of snow and fog between 10 and 19 hours last evening.
		16	29.165	42	40	81	...	...	...	Calm, cirr. cumuli.
	2nd	9-30	29.174	40	38	82	N E	Light	...	Scattered cumuli.
		16	29.146	42	38	69	W N W	Light	...	Iditto.
	3rd	9-30	29.255	39	37	81	E S E	Light	...	Misty.
		16	29.192	34	33	89	S W by W	Light	...	Snowing very slightly for last 14 hours.
	4th	9-30	P	36	32	61	E	Light	0.05	Cumuli round horizon, rest clear.
		16	P	40	42	69	S S E	Light	...	Scattered cumuli.
	5th	9-30	29.250	36	30	100	W S W	Light	...	Misty.
		16	29.192	47	43	60	E S E	Light	...	Scattered cumuli.
	6th	9-30	29.274	40	40	91	E	Light	...	Clear.
		16	29.104	47	43	60	W S W	Light	...	Scattered cumuli.
	7th	9-30	29.247	42	41	91	E by S	Light	...	
		16	29.250	43	43	77	W	Light	...	Misty.

STATION.	February.	Hour.	Barometer reduced to 32°.	THERMOMETER.		Humidity Sat. = 100.	WIND.		Rain.	WEATHER.
				Dry.	Wet.		Direction.	Velocity.		
PAVIA.	1st	9-30	29.797	68°	68	63	W N W	...	...	Pleasant.
		3-30	29.840	68	61	60	W N W	...	...
	2nd	9-30	29.898	67	60	61	N W	...	...	Rain gathering.
		3-30	29.727	73	63	53	W S W	...	...
	3rd	9-30	29.812	61	58	82	S S E	...	...	Desultory rain. Thunder
		3-30	29.713	61	59	...	N W	...	...	clap evening.
	4th	9-30	29.653	63	...	72	N W	...	...	Heavy fog clearing off at 2
		3-30	29.728	78	65	46	W N W	...	...	A. M.
	5th	9-30	29.847	66	60	63	S W	...	...	Fine day.
		3-30	29.743	73	64	68	W S W	...	...
PAVIA POST.	6th	9-30	29.834	68	60	60	W S W	...	...	Ditto.
		3-30	29.690	73	62	80	S W	...	...
	Jan.	9-30	29.951	73	69	80	N N E	...	...	Light winds and fine.
	26th	18	29.871	73	69	83	N N E	...	...	Ditto winds and overcast.
	27th	9-30	29.955	74	70	81	N N E	...	...	Ditto airs with small rain.
		16	29.804	72	70	80	S E	...	...	Ditto ditto.
	28th	9-30	29.901	73	70	85	E	...	...	Light winds and fine.
		18	29.819	74	72	90	S E	...	...	Ditto weather and cloudy.
	29th	9-30	29.991	73	70	85	N E	...	...	Fresh breezes and fine.
		16	29.911	73	70	86	E	...	...	Moderate breezes and fine.
Feb.	30th	9-30	29.978	74	72	90	N E	...	...	Light weather.
		18	29.886	76	73	90	N E	...	...	Ditto weather.
	31st	9-30	29.911	73	68	76	N N E	...	...	Ditto winds and cloudy, with small rain.
		10	29.908	74	69	78	E S E	...	...	Ditto winds and fine.
1st		9-30	29.976	71	...	85	N E	...	...	Strong breezes and fine.
		16	29.868	74	71	...	E	...	...	Moderate breezes and cloudy.

BENGAL SECRETARIAT, }
The 15th February 1868.

HENRY F. BLANFORD,
Meteorological Reporter to Govt. of Bengal.



SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, FEBRUARY 26, 1868.

OFFICIAL PAPERS.

Non-Subscribers to the GAZETTE may receive the SUPPLEMENT separately on a payment of six Rupees per annum if delivered in Calcutta, or twelve Rupees if sent by Post.

The License Tax.

Statement of amount collected under Act XXI. of 1867 in the Lower Provinces.

	PRESIDENCY.			MOFUSIL.		Total.
	Before reported.	FOR THE WEEK ENDING,		Reported to close of Nov. 1867.	In Dec. 1867.	
		1st February.	8th February.			
	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.
Collections	4,54,707 1 5	1,533 8 0	1,941 0 0	9,13,228 ■ ■	60,181 ■ 0	14,40,590 9 5
Deduct Refunds	27,299 5 7	2,194 0 0	2,116 0 0	51,140 0 0	21,660 0 0	1,04,908 ■ 7
Remaining	4,26,907 11 10	0 ■ 0	■ 0 0	8,62,088 0 0	47,521 0 ■	13,35,592 3 10
Deductions (at the Presidency by the Examiner of Claims) from salaries of servants under ...						
Govt. of India ...	27,171 7 11	0 0 0	244 7 5	0 0 0	0 0 0	27,415 15 4
Govt. of Bengal..	24,545 15 2	0 0 0	129 9 ■	0 0 0	0 0 0	24,675 8 4
Ditto at Mofussil Treasuries	0 0 0	0 0 0	■ 0 0	70,272 0 0	1,370 0 0	71,642 0 0
Ditto at other local Offices	0 0 0	0 0 0	0 0 0	0 0 0	0 0 ■	12,150 0 0
Ditto in Military Department, less refunds Begam 2,028-1-4	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	10,351 10 8
Total	4,79,625 2 11	■ ■ 0	274 0 7	9,32,360 ■ 0	49,891 0 0	14,90,797 2

Results of the Meteorological Observations taken at the Surveyor-General's Office, Calcutta, from 15th to 21st February 1868.

MONTH.	Date.	Reduced Reading of Barometer at 16 A. M.	THERMOMETER.		Daily Range of the Temperature.	Mean Temperature for the day.	Mean Wet Bulb.	Computed Mean Dew-point.	Mean Degree of humidity for the day.	Prevailing Direction of Wind during the day.	Rain.	Max. Pressure of Wind.	GENERAL REMARKS.
			Highest Reading.	Lowest Reading.									
		Inches.	°	°	°	°	°	°			Inches.	lb.	
Feb.	15th	30.146	82.5	67.5	15.0	74.8	66.4	60.4	0.63	Variable.	...	...	Chiefly clear.
	16th	.142	81.4	65.5	15.9	73.2	62.8	54.1	.53	N N W & N	...	...	Clear.
	17th	.067	83.0	64.0	19.0	75.8	63.3	55.7	.57	Variable.	...	...	Clear.
	18th	.028	83.0	65.2	17.8	74.1	64.0	58.5	.50	N W & Variable.	...	...	Chiefly clear. Slightly foggy at 6 P. M.
	19th	.023	80.5	67.5	13.0	75.0	67.5	63.1	.72	W	...	...	Clear, Stratus and cirrocumuli.
	20th	30.893	84.5	70.5	14.1	75.9	71.7	68.8	.79	S	...	...	Stratus and cumuli.
	21st	.926	88.5	70.5	18.0	78.0	71.3	63.0	.69	S & Variable.	...	...	Chiefly clear.

The mean Temperature and the mean Wet Bulb are derived from the twenty-four hourly Observations made during the day.

The Dew-point is computed with the Greenwich constants. The figures in column ten represent the humidity of the air, the complete saturation of which being taken at unity. The receiver of the lower rain gauge is 1 foot 2 inches, and that of the Anemometer 70 feet 10 inches, above the level of the ground.

The extreme variation of Temperature during the past seven days	...	...	24.5
The Max. Temperature during the past seven days	...	...	88.5
The Max. Temperature during the corresponding period of the past year	...	...	88.4
The mean humidity during the past seven days	...	...	0.65
The mean humidity during the corresponding period of the past year	...	...	0.65
			Inches.
The total fall of rain from 15th to 21st...			
{ by lower rain gauge		...	Nil.
{ by Anemometer gauge		...	Nil.
Ditto ditto	from 15th to 21st, average of fourteen previous years	...	0.00
Ditto ditto	between the 1st January and the 21st current	...	0.05
Ditto ditto	during the corresponding period of the past year	...	1.25

The 24th February 1868.

GOPINATH SEN,
In charge of the Observatory.

Meteorological Report up to 14th February 1868.

STATIONS.	February.	Hour.	Barometer reduced to 32°.	THERMOMETER.		Humidity Sat. = 100.	WIND.		Rain.	WEATHER.
				Dry.	Wet.		Direction.	Velocity.		
CALCUTTA.			Inches.	☉	☉				Inches.	
	8th	10	30.135	70	64	70	N	...	...	Scattered cumuli.
		10	30.010	77	66	53	N E	...	...	Scattered cirrocumuli.
	9th	10	30.154	70	66	75	N	...	...	Clear.
		10	30.011	78	68	49	N W	...	...	Scattered cumuli.
	10th	10	30.124	72	64	52	N N W	...	...	Ditto cirri.
		10	30.001	77	68	53	W	...	...	Ditto cumuli.
	11th	10	30.108	73	69	...	S W	...	...	Ditto.
		10	30.059	70	68	54	W by N	...	...	Ditto.
	12th	10	30.068	70	67	81	W	...	...	Overcast.
		10	30.042	81	69	51	W N W	...	...	Scattered cumuli.
	13th	10	30.001	77	72	77	S W	...	...	Ditto.
		10	30.080	84	74	60	S	...	...	Ditto.
	14th	10	30.083	77	73	81	N N E	...	...	Covered with cirrocumuli and strati.
MAHON ISLAND.		10	30.054	84	73	59	N N W	...	...	Scattered cumuli.
	8th	9-30	30.084	72	67	74	N E	Moderate	...	Hazy.
		10	30.089	77	71	73	S W	...	...	Clear.
	9th	9-30	30.118	71	68	85	N by E	Moderate	...	Light clouds.
		10	30.004	78	73	73	S W by W	Light	...	Clear.
	10th	9-30	30.000	71	64	66	S E by E	Light	...	Scattered clouds.
		10	30.002	76	68	64	S S W	Light	...	Clear.
	11th	9-30	30.003	72	70	80	Calms	Light	...	Clouds to S.
		10	29.987	77	73	81	W by S	Light	...	Clear.
	12th	9-30	30.028	74	73	95	N W by W	Light	...	Hazy.
		10	29.926	78	74	81	S	...	...	Clear.
	13th	9-30	29.973	76	74	90	N W by W	Moderate	...	Ditto.
		10	29.905	78	75	86	S	Moderate	...	Partial cloudy.
	14th	9-30	30.030	77	76	85	N W by W	Light	...	Scattered light clouds.
CHITTAGONG.		10	29.962	79	75	83	S W by S	Light	...	Clear.
	8th	9-30	29.979	67	63	70	N	Light	...	Hazy.
		10	29.978	72	...	80	S W	Light	...	Ditto.
	9th	9-30	29.904	66	67	94	S S E	Light	...	Foggy morning.
		10	29.921	73	69	80	S W by W	Light	...	Hazy, cumuli towards N.
	10th	9-30	29.904	69	66	84	N by E	Light	...	Hazy.
		10	29.911	73	...	76	S W	Light	...	Heavy towards E.
	11th	9-30	29.974	...	65	70	S W	Light	...	Hazy.
		10	29.878	73	67	71	S W	Light	...	Ditto.
	12th	9-30	29.954	69	68	84	S W	Light	...	Foggy.
		10	29.956	74	68	72	S W by W	Light	...	Hazy.
	13th	9-30	29.902	...	67	89	S S E	Light	...	Ditto.
		10	29.836	74	69	76	S W	Light	...	Cumulostrati, threatening towards W. and N. W.
	14th	9-30	29.936	69	67	80	S S E	Light	...	Cirrocumuli.
ANAR.		10	29.896	75	72	85	S W	Light	...	Nimbus; very stormy appearance towards N. W. S. S. W. and N. E., cirrostrati towards S. and S. W.
	8th	9-30	30.058	70	67	84	N E	Light	...	Fine.
		10	30.070	76	70	72	N W	Light	...	Ditto.
	9th	9-30	30.068	70	69	89	N E	Light	...	Ditto.
		10	29.967	78	73	77	W	Light	...	Ditto.
	10th	9-30	30.068	78	67	73	N	Light	...	Ditto.
		10	29.937	78	73	77	W	Moderate	...	Ditto.
	11th	9-30	30.036	71	...	75	N W	Light	...	Ditto.
		10	29.920	77	72	77	N W	Moderate	...	Ditto.
	12th	9-30	29.941	...	66	84	N E	Light	...	Ditto.
		10	29.889	78	72	73	N W	Moderate	...	Ditto.
	13th	9-30	29.970	71	67	80	N E	Light	...	Ditto.
		10	29.860	81	75	74	N W	Moderate	...	Ditto.
	14th	9-30	30.040	78	69	80	N E	Light	...	Ditto.
CHITTAGONG.		10	29.949	81	73	88	W	Light	...	Ditto.
	9th	9-30	30.143	72	69	80	S by N	Light	...	Overcast with cirri.
		10	30.039	79	68	87	N by W	Light	...	Cumulostrati, cirri and cloudy.
	9th	9-30	30.167	75	70	78	N W by W	Light	...	Very foggy from 5 to 7 A. M., cirrostrati and calm day.
		10	30.057	79	...	54	N E by E	Light	...	Scattered cirri and cirrostrati.
	10th	9-30	30.170	73	69	80	S S E	Light	...	Cirrostrati, cirri, and overcast.
		10	30.047	79	67	60	W by N	Light	...	Thin cirri and cirrostrati to S. E. horizon.
	11th	9-30	30.145	71	68	85	W by N	Light	...	Heavy fog this morning, scattered cirri, partially overcast.
		10	30.017	...	69	51	S W by S	Light	...	Thin cirri to S. E. and N. E. horizon.
	12th	9-30	30.110	74	71	86	S S W	Light	...	Clear sky and fine day.
		10	29.965	80	71	62	...	Moderate	...	Cirri and cumulostrati.
	13th	9-30	30.045	77	72	77	S W by S	Moderate	...	Cirri and cirrostrati.
		10	29.915	80	73	70	N W by W	Moderate	...	Distant thunder in W. at 2-50 P. M. Rainbow, nimbi cumulostrati, lightning and thundering to S. E. cirrostrati to N. E. and N. W. with drizzling rain.
	14th	9-30	30.106	...	...	80	N by W	Light	...	Very foggy morning covered with strati and calm.
		10	29.979	83	...	60	E	Light	...	Distant thunder in W., cumulostrati cirrostrati, nimbi with few drops of rain and calm.

STATION.	February.	Hour.	Barometer reduced to 32°.	THERMOMETER.		Humidity Sat. = 100.	WIND.		Rain.	WEATHER.
				Dry.	Wet.		Direction.	Velocity.		
MADRAS.										
			Inches.	°	°				Inches.	
	8th	10	30.092	89	74	68	E by S	6°	...	Fine.
		16	29.970	88	70	59	E	7°	...	Ditto.
	9th	10	30.122	80	70	59	S W	8°	...	Ditto.
		16	29.094	80	71	62	E N E	10°	...	
	10th	10	30.119	81	71	61	N E	8°	...	Fine with light clouds.
		16	29.099	81	72	62	N E by E	10°	...	Fine.
	11th	10	30.096	82	72	59	S W	4°	...	Fine with passing clouds.
		16	29.067	81	72	62	E	8°	...	Fine.
	12th	10	30.067	83	73	60	E N E	6°	...	Passing clouds.
		16	29.039	81	71	59	E	9°	...	Fine with light clouds.
	13th	10	30.040	82	71	55	S E	7°	...	Ditto ditto.
		16	29.913	82	73	63	S E by E	8°	...	Clear.
	14th	10	30.049	80	72	60	S E	5°	...	Fine.
		16	29.959	82	73	63	E S E	7°	...	Clear.
MADRAS.										
	8th	10	29.932	60	57	82	W	Light	...	Cumuli, strati.
		16	29.814	69	60	66	N W	...	...	Cumuli.
	9th	10	29.987	68	61	73	S W	Moderate.	...	
		16	29.861	74	63	61	S W	Light	...	Ditto.
	10th	10	29.909	63	61	61	W	Light	...	Strati.
		16	29.799	70	63	44	N W	Light	...	Cumulostrati.
	11th	10	29.843	...	...	...	W	...	...	Strati.
		16	29.772	...	...	...	S W	...	...	Nimbi, cumulostrati.
	12th	10	29.803	...	...	...	W	...	...	Cumuli
		16	29.753	...	...	...	W	...	...
	13th	10	29.773	...	...	...	W	Light.	...	Cirri Strati.
		16	29.643	...	...	...	N W	Light	...	Strati.
	14th	10	29.900	...	...	...	W	...	...	Cumuli.
		16	29.803	...	...	...	W	...	...
ROCKHURST.										
	8th	9-30	29.230	63	57	67	Calm	...	...	Sky partially clear and cloudy.
		16	29.145	60	61	60	N W	...	...
	9th	9-30	29.242	60	58	88	Calm	...	...	Foggy and cloudy.
		16	29.143	60	60	88	N W	...	...
	10th	9-30	29.168	61	59	82	N W	...	...	Cloudy morning; rain in light shower in the afternoon and evening.
		16	29.064	70	59	52	N W	...	...	Rain in a very light shower in the early morning, and again in the evening at 6.30.
	11th	9-30	29.161	60	58	89	S	...	...
		16	29.101	66	61	78	Calm	...	0.20	
	12th	9-30	29.123	68	59	61	N E	...	...
		16	29.002	74	62	67	S W	...	...
	13th	9-30	29.185	63	57	67	S W	...	...
		16	29.021	66	65	46	S W	...	...
	14th	9-30	29.159	61	66	65	W	...	...	Bright clear day. Heavy dew at night.
		16	29.126	70	58	44	W	...	...
DARJILING.										
	8th	9-30	29.342	39	38	90	Calm	...	0.2	Dense mist.
		16	29.282	41	41	100	S E by E	Light	...	Ditto.
	9th	9-30	29.370	39	...	90	W by S	Light	...	Misty.
		16	29.270	43	42	91	W by N	Light	...	Dense mist.
	10th	9-30	29.300	43	41	91	W by N	Light	...	Misty.
		16	29.248	44	43	91	W N W	Light	...	Ditto.
	11th	9-30	29.320	42	43	100	E S E	Light	0.05	Ditto.
		16	29.248	44	41	100	N W	Light	...	Dense mist.
	12th	9-30	29.300	43	42	91	E by S	Light	...	Misty.
		16	29.203	47	46	84	W N W	Moderate	...	Scattered cumuli.
	13th	9-30	29.202	43	41	83	S	Light	...	Ditto ditto.
		16	29.172	48	48	77	S W	Moderate	...	Ditto ditto.
	14th	9-30	29.261	45	43	84	S W	Light	...	Ditto ditto.
		16	29.259	47	46	81	W	Moderate	...	Misty.
DACCA.										
	8th	9-30	30.040	66	63	83	E N E	Light	...	Drizzling, cloudy.
		16	29.940	70	64	70	S S W	Light	...	Scattered clouds.
	9th	9-30	30.001	69	66	84	E S E	Light	...	Ditto ditto.
		16	29.939	73	66	71	W	Light	...	Ditto ditto.
	10th	9-30	30.021	69	66	70	W	Light	...	Clear.
		16	29.936	71	64	66	W	Light	...	Ditto.
	11th	9-30	30.016	71	64	66	N N W	Light	...	Ditto.
		16	29.901	73	65	62	W N W	Light	...	Ditto.
	12th	9-30	29.943	72	64	66	W N W	Light	...	Ditto.
		16	29.866	75	68	59	W	Light	...	Partially cloudy.
	13th	9-30	29.921	73	67	71	S S W	Light	...	Ditto.
		16	29.846	75	70	76	S S W	Light	...	Ditto.
	14th	9-30	29.999	74	72	78	S W	Light	...	Cloudy.
		16	29.893	75	69	72	S	Light	...	Partially cloudy. Light fall of rain at 12-40, not measurable.
PATNA.										
	7th	9-30	29.831	60	...	92	W	...	...	Strati and wintry. Thunder and lightning last night.
		16	29.690	73	65	60	S E	...	...
	8th	9-30	29.996	69	69	94	N N E	...	...	Mild.
		16	29.846	70	64	70	N E	...	...
	9th	9-30	29.972	67	63	74	N N E	...	...	A fine day.
		16	29.837	...	64	...	N N E	...	...
	10th	9-30	29.982	70	63	65	N N E	...	...	Ditto.
		16	29.763	73	...	18	N W	...	...
	11th	9-30	29.884	73	64	58	S W	...	...	Ditto.
		16	29.739	76	...	62	N W	...	...
	12th	9-30	29.840	61	59	68	W	...	...	Day broke fine, rain, snow.
		16	29.741	70	64	70	N W	...	...	A. M.
	13th	9-30	29.751	70	64	70	W	...	...	Fine and clear, warm.
		16	29.458	79	62	43	W N W	...	...

STATIONS.	February.	Hour.	Barometer reduced to 32°.	THERMOMETER.		Humidity Sat. = 100.	WIND.		Rain.	WEATHER.
				Dry.	Wet.		Direction.	Velocity.		
FAIR POINT.			Inches.	⊖	⊖				Inches.	
	2nd	9-30	29.871	73	70	80	E	...	0.05	Light weather and rain.
		16	29.861	73	69	80	SE by E	...	...	Moderate breeze.
	3rd	9-30	29.861	73	70	88	...	...	...	Ditto.
		16	29.819	70	69	91	ENE	...	...	Ditto. Heavy thunder in the N. N. W. and overcast at 11 hours.
	4th	9-30	29.906	71	67	80	NE	...	1.3	Strong breeze and fine.
		16	29.879	70	67	84	E	...	...	Moderate breeze.
	5th	9-30	29.909	66	63	69	NE	...	...	Ditto.
		16	29.909	70	68	80	ESE	...	...	Light winds and fine.
	6th	9-30	30.003	72	64	62	E	...	...	Ditto weather.
		16	29.904	73	66	71	SE	...	...	Ditto ditto.
	7th	9-30	29.986	70	66	72	Calm	...	...	Ditto ditto.
		16	29.914	72	68	86	SE	...	...	Ditto winds and fine.
	8th	9-30	30.028	74	69	76	Calm	...	...	Overcast.
		16	29.945	75	71	85	E	...	...	Light winds and cloudy

BENGAL SECRETARIAT,
The 22nd February 1868. }

HENRY F. BLANSFORD,
Meteorological Reporter to Govt. of Bengal.



SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, MARCH 4, 1868.

OFFICIAL PAPERS.

Non-Subscribers to the GAZETTE may receive the SUPPLEMENT separately on a payment of six Rupees per annum if delivered in Calcutta, or twelve Rupees if sent by Post.

Report on the Cultivation of Cinchona at Darjeeling, during the month of November 1867.

From T. ANDERSON, Esq., M. D., Superintendent, Botanical Gardens, and in charge of Cinchona Cultivation in Bengal, to the Junior Secretary to the Government of Bengal,—(No. 120, dated Botanical Gardens, the 18th February 1868.)

I HAVE the honor to forward the Report on the cultivation of Cinchona at Darjeeling, during the month of November 1867.

Report on the cultivation of Cinchona at Darjeeling, during the month of November 1867.

The work performed during the month consisted of hoeing and weeding the open air plantations, top dressing the nursery beds, and cutting jungle on the land selected for the extension of the open air plantations during the planting season of 1868. The repair of the roads and bridges of the plantations was commenced about the beginning of the month: 1,898 plants of *C. Calisaya* were added to the stock plants of that species; 77,100 plants of *C. Succirubra*, *Officinatis*, and *C. Micrantha* were planted in open air nursery beds.

The increase by cuttings and seedlings during the month amounted to 52,120, of which number 25,000 were seedlings, about 2 inches in height.

The weather during the month was dry and clear with cold still nights. Showers of rain occurred on 9 days, but only 0.65 of an inch of rain were recorded.

Table showing the temperature of the month at the different plantations.

PLANTATIONS.	Mean Maximum.	Mean Minimum.	Mean Temperature.	REMARKS.
1st Plantation ...	58.6	48.8	52.7	
2nd Ditto ...	60.28	47.22	53.74	
3rd Ditto ...	69.9	48.1	59.0	
4th Ditto ...	79.25	52.83	66.06	

Table showing the maximum and minimum growth during the month of September 1867.

NAMES OF SPECIES.	TERETA.		RUNGBEE.		
	First Plantation.	Second Plantation.	Third Plantation.	Fourth Plantation.	Fifth Plantation.
C. Succirubra ..	1½ to 3½ ins.	1 to 2½ ins.	Not measured.	½ to 4½ ins.	½ to 4½ inches.
C. Micrantha ..	1½ to 5½ ..	½ to 7½ ..	Ditto.	½ to 1½ ..	½ to 4½ ..
C. Officinalis ..	Not measured.	Not measured.	½ to 2½ inches.	½ to 3½ ..	½ to 4 ..
C. Pahudiana ..	Ditto.	Ditto.	Not measured.	½ ..	2 to 6 ..

Number and Distribution of Cinchona Plants in the Government Plantations at Rungbee on the 1st December 1867.

NAMES OF SPECIES OF CINCHONA.	Number in permanent Plantations.	Number of stock plants for propagation.	Number of seedlings or rooted cuttings in Nursery Beds for permanent Plantations.	Number of rooted plants in Cutting Beds.	Number of cuttings made during the month.	Total number of plants, cuttings, and seedlings.
C. Succirubra	250,823	20,000	1,84,210	*1,01,799	27,120	6,73,957
C. Calisaya	150	4,158	None.	4,946	None.	9,254
C. Micrantha	5,558	1,000	8,220	15,880	None.	30,667
C. Officinalis and Varieties ..	1,30,919	10,000	2,40,476	†2,70,013	None.	6,51,408
C. Pahudiana	5,002	None.	None.	None.	None.	5,092
Total	3,92,547	35,158	4,32,906	4,82,647	27,120	13,76,378

J. GAMMIE,
Head Gardener in Charge.

* 3,500 Seedlings have been added.
† 21,500 Ditto ditto.

Results of the Meteorological Observations taken at the Surveyor-General's Office, Calcutta, from 22nd to 29th February 1868.

Month.	Date.	Reduced Reading of Barometer at 10 A. M.	THERMOMETER.		Daily Range of the Temperature.	Mean Temperature for the day.	Mean Wet Bulb.	Computed Mean Dew-point.	Mean Degree of Humidity for the day.	Prevailing Direction of Wind during the day.	Rain.	Daily Velocity of Wind.	GENERAL REMARKS.
			Highest Reading.	Lowest Reading.									
		Inches.	°	°	°	°	°	°			Inches.	Miles.	
Feb.	22nd	30.000	87.0	73.0	14.0	78.0	71.2	65.3	66	N & Variable.	...	72.7	Clear and clouds of different kinds.
	23rd	29.918	88.7	71.5	17.2	76.7	71.9	68.5	77		...	68.4	Scattered clouds and overcast. High wind at 8 a.m. Thunder and lightning from 4 to 11 a.m. Drizzled at 5, 8, 9, and 11 p.m.
	24th	772	82.5	71.6	10.9	76.9	72.9	70.9	81	Variable.	0.18	186.2	Scattered clouds at Midnight. Lightning at 1 a.m. Rain with hail between Midnight and 1 a.m.
	25th	930	82.0	69.0	13.6	76.4	67.4	61.8	64	N	...	19.6	Clear.
	26th	30.013	80.0	68.0	12.0	73.1	62.4	53.8	53	N	...	72.5	Clear.
	27th	006	80.7	67.0	13.1	71.2	60.6	51.9	55	N & N W	...	55.0	Clear.
	28th	29.918	83.7	61.5	22.2	72.3	61.8	58.4	54	Variable & N W	...	57.0	Clear.
	29th	402	82.8	64.6	18.3	72.6	63.3	55.9	58	N	...	54.1	Clear.

The mean Temperature and the mean Wet Bulb are derived from the twenty-four hourly Observations made during the day.

The Dew-point is computed with the Greenwich constants. The figures in column ten represent the humidity of the air, the complete saturation of which being taken at unity. The receiver of the lower rain gauge is 1 foot 2 inches, and that of the Anemometer 70 feet 10 inches, above the level of the ground. The velocity of wind as indicated by Robinson's Anemometer is Registered from noon to noon.

The extreme variation of Temperature during the past eight days				...	...	25.5
The Max. Temperature during the past eight days				...	...	87.0
The Max. Temperature during the corresponding period of the past year				...	...	88.6
The mean humidity during the past eight days				...	...	66.3
The mean humidity during the corresponding period of the past year				...	...	66.1
						Inches.
The total fall of rain from 22nd to 29th...				{ by lower rain gauge	...	0.18
				{ by Anemometer gauge	...	0.15
Ditto	ditto	from 22nd to 29th, average of fourteen previous years		...	...	0.15
Ditto	ditto	between the 1st January and the 29th ultimo		...	...	0.28
Ditto	ditto	during the corresponding period of the past year		...	...	1.37

* Fell from 5 p. m. of the 23rd to 1 a. m. of the 24th.

The 3rd March 1868.

GOPENSAUTH SEN,
In charge of the Observatory.

Meteorological Report up to 21st February 1868.

STATIONS.	February.	Hour.	Barometer reduced to 32°.	THERMOMETER.		Humidity Sat. = 100.	WIND.		Rain.	WEATHER.
				Dry.	Wet.		Direction.	Velocity.		
CALCUTTA.										
	15th	10	30.146	76	64	49	N by E	...	...	Clear.
		18	30.122	82	64	46	N W	...	...	Ditto.
	16th	10	30.119	77	63	41	N	...	...	Ditto.
		18	30.997	81	63	31	N N W	...	...	Ditto.
	17th	10	30.107	74	61	51	N W	...	...	Ditto.
		16	29.926	83	66	33	W N W	...	...	Ditto.
	18th	10	30.024	79	66	47	N N E	...	...	Ditto.
		16	29.804	83	66	30	N W	...	...	Cirri.
	19th	10	30.025	75	71	81	W	...	...	Cirrocumuli.
		18	29.851	81	88	48	W by S	...	...	Scattered cirrocumuli.
	20th	10	29.843	80	74	74	S	...	...	Cirrocumuli.
		18	29.741	80	75	78	S	...	...	Cumuli.
	21st	10	29.925	79	74	77	S by W	...	...	Clear.
		16	29.830	87	72	45	W	...	...	Scattered cumuli.
BANSON ISLAND.										
	15th	0-30	30.173	78	74	90	N	Moderate	...	Ditto Clouds.
		18	29.991	81	73	60	N	Light	...	Clear.
	16th	0-30	30.107	77	64	64	N by E	Light	...	Ditto.
		18	29.964	83	70	43	N W	Light	...	Ditto.
	17th	0-30	30.047	74	71	85	N by W	Light	...	Ditto.
		18	29.919	81	71	59	S W	Moderate	...	Ditto.
	18th	0-30	29.977	75	72	85	N	Light	...	Ditto.
		18	29.872	79	73	73	S	Moderate	...	Ditto.
	19th	0-30	29.978	79	76	91	N W by W	Moderate	...	Ditto.
		16	29.820	80	75	79	S	Light	...	Scattered clouds.
	20th	0-30	29.866	79	75	82	S W	Strong	...	Clear.
		18	29.694	79	76	86	S W	Strong	...	Partially cloudy. Drizzling.
	21st	0-30	29.888	74	77	95	N W	Light	...	Light scattered clouds.
		10	29.818	81	78	83	S	Light	...	Clear.
CHITTAGONG.										
	15th	0-30	29.903	73	70	85	S	Light	...	Boggy morning, cumuli towards S. W., W., N. W.
		18	29.910	77	75	90	S W	Light	...	Masses of cumuli towards N. N. E. and E.
	16th	0-30	30.011	74	69	70	N E	Light	...	Misty horizon.
		18	29.880	77	70	68	S W	Moderate	...	Ditto ditto.
	17th	0-30	29.930	77	68	68	N E	Light	...	Ditto ditto.
		18	29.836	75	67	63	S W	Light	...	Ditto ditto.
	18th	0-30	29.919	71	64	85	S W	Light	...	Clear cumuli towards S.
		16	29.805	75	69	72	S W	Light	...	Misty horizon.
	19th	0-30	29.889	71	68	87	S E by E	Light	...	Cirrocumuli.
		18	29.778	76	72	85	S	Light	...	Dispersing cirrocumuli and cumuli changing wind.
	20th	0-30	29.854	72	70	90	S E	Light	...	Cumuli, the evening, changing wind.
		16	29.773	74	73	95	S by E	Light	...	Small strati, drizzling.
	21st	0-30	29.854	72	70	91	S S E	Light	1.0	Unsettling, changing wind, heavy rain with lightning.
		18	29.811	76	73	66	S by E	Moderate	...	Less light and the morning cumuli, changing wind.
AYYER.										
	15th	0-30	30.088	74	70	81	E	Moderate	...	Covered with strati, and calm.
		18	29.959	80	74	74	W	Light	...	Cirri, cirrocumuli and calm.
	16th	0-30	30.069	77	71	73	N	Light	...	Cumulostrati.
		18	29.907	82	71	70	W	Light	...	Scattered cirri and cirrocumuli.
	17th	0-30	30.005	75	66	70	N E	Light	...	Fine horizon.
		18	29.802	79	75	82	E	Moderate	...	Fine clear evening.
	18th	0-30	29.806	71	66	75	E	Light	...	Clear sky and hazy.
		18	29.882	79	74	77	W	Light	...	Thin cirri, sultry and calm.
	19th	0-30	29.973	72	68	80	N E	Light	...	Clear.
		18	29.863	80	71	74	N W	Moderate	...	Cirrocumuli to S. E.
	20th	0-30	29.943	72	70	90	E	Light	...	Cirri to N. E. horizon, & hazy.
		18	29.803	70	72	69	W	Light	...	Cirri, cirrocumuli, and mist, unsteady wind.
	21st	0-30	29.935	75	72	85	E	Light	...	Hazy, clear sky.
		18	29.916	79	73	73	S	Light	...	Cirrocumuli to S. E. horizon.
CUTTACK.										
	15th	0-30	30.184	76	73	86	S E by E	Light	...	Thin cirri and misty.
		18	30.051	82	73	63	E	Light	...	Fine.
	16th	0-30	30.173	74	72	73	E N E	Light	...	Clear.
		18	30.030	82	79	87	W by N	Light	...	Fine with light clouds.
	17th	0-30	30.117	75	70	70	W by N	Light	...	Fine.
		18	29.990	81	65	84	W by N	Light	...	Fine with light clouds.
	18th	0-30	30.082	74	64	63	S by W	Light	...	Clear.
		18	29.936	85	66	32	N by W	Light	...	Clear sky and hazy.
	19th	0-30	30.018	76	76	72	E	Light	...	Thin cirri, sultry and calm.
		18	29.907	83	70	49	E	Moderate	...	Clear.
	20th	0-30	29.977	73	73	73	S W by S	Moderate	...	Cirrocumuli to S. E.
		18	29.820	83	75	67	S by E	Moderate	...	Cirri to N. E. horizon, & hazy.
	21st	0-30	29.997	79	70	81	S W by S	Light	...	Cirri, cirrocumuli, and mist, unsteady wind.
		18	29.880	85	70	44	S W by W	Light	...	Hazy, clear sky.
MADRAS.										
	15th	10	30.104	81	72	63	S	4°	...	Fine.
		18	29.993	89	73	63	E N E	8°	...	Clear.
	16th	10	30.123	82	71	66	E	5°	...	Fine with light clouds.
		16	29.979	83	74	63	E N E	8°	...	Fine.
	17th	10	30.078	82	74	66	N E	11°	...	Fine with light clouds.
		16	29.951	83	74	63	N E	11°	...	Clear.
	18th	10	30.068	82	74	66	E N E	5°	...	Passing clouds.
		16	29.925	83	75	70	E	8°	...	Fine with light clouds.
	19th	10	30.013	82	73	63	E S E	9°	...	Ditto ditto.
		18	29.881	83	74	74	E S E	9°	...	Clear.
	20th	10	30.009	81	73	61	S W by S	4°	...	Ditto.
		18	29.868	85	75	70	S E	9°	...	Ditto.
	21st	10	29.993	81	75	74	S	9°	...	Fine.
		18	29.878	81	76	78	S E	9°	...	Clear.

* Velocity in miles per hour.

STATION.	February.	Hour.	Barometer reduced to 35°.	THERMOMETER.		Humidity Sat. = 100.	WIND.		Rain.	WEATHER.
				Dry.	Wet.		Direction.	Velocity.		
DARJEELING.	15th	9-30	23.322	43	40	82	S E	Light	...	Cumuli round horizon, rest clear; slight hoar frost.
	16	...	23.274	47	41	77	W	Light	...	Misty.
	16th	9-30	23.320	43	41	83	W	Light	...	Ditto.
	16	...	23.243	45	44	92	Calm	...	...	Dense mist.
	17th	9-30	23.291	41	41	100	E by S	Light	0.04	Misty.
	16	...	23.341	44	43	91	E S E	Light	0.01	Ditto.
	18th	9-30	23.309	45	44	91	E by S	Light	0.02	Ditto.
	16	...	23.241	49	45	84	E S E	Light	0.19	Ditto.
	19th	9-30	23.294	40	39	91	E by S	Light	0.12	Ditto.
	16	...	23.175	43	43	100	W	Light	0.03	Ditto.
	20th	9-30	23.181	41	41	100	W by N	Light	0.1	Ditto.
	16	...	23.112	45	44	92	S W	Light	...	Ditto.
PYNABUR.	21st	9-30	23.149	41	40	91	W by N	Light	...	Ditto.
	16	...	23.136	44	43	91	W N W	Light	...	Ditto.
	15th	10	20.914	...	...	...	W	Moderate	...	Strati.
	16	...	20.843	...	...	...	W	...	...	...
	16th	10	20.844	...	...	...	S W	Moderate	...	...
	16	...	20.774	...	...	...	W	Strong.	...	...
	17th	10	20.904	...	...	...	W	...	...	...
	16	...	20.795	...	...	...	S W	...	...	Cumuli, strati.
	18th	10	20.798	...	...	...	S W	...	...	Cirrostrati.
	16	...	20.778	...	...	...	S W	...	...	Cirri, strati.
	19th	10	20.749	...	...	...	S E	...	...	Cirrocumuli, cumuli.
	16	...	20.636	...	...	...	E	...	...	Cumuli, cumulostrati.
ROCKHURST.	20th	10	20.67	...	...	...	N	...	...	Cirri, cumuli.
	16	...	20.561	...	...	...	S W	...	...	Cirri, strati.
	21st	10	20.719	...	...	...	W	Light.	...	...
	16	...	20.636	...	...	...	W	Light	...	Cumuli, strati.
	15th	9-30	20.219	63	58	72	N W	...	...	Bright, clear day.
	16	...	20.149	73	60	42	N W	...	...	...
	16th	9-30	20.176	63	68	72	W	...	...	Brisk westerly wind at 10
	16	...	20.628	73	59	33	Calm	...	...	dying down to calm at 16.
	17th	9-30	20.112	64	57	92	N E	...	...	...
	16	...	20.016	75	60	36	N W	...	...	...
	18th	9-30	20.018	60	55	68	S W	...	...	Cloudy all day, light shower at 10-30 and later on much lightning towards the N. E. wind.
	16	...	20.001	65	61	73	N E	...	...	Nimbi in sky but no rain fell till 21 hours.
Dacca.	16th	9-30	20.061	70	64	55	N E	...	...	...
	16	...	20.060	74	64	55	E	...	...	...
	20th	9-30	20.002	66	59	63	S E	...	0.06	...
	16	...	20.005	73	61	16	S W	...	...	...
	21st	9-30	20.017	63	59	77	Calm	...	...	...
	16	...	20.080	60	60	56	S W	...	...	...
	15th	9-30	20.049	73	69	60	S	Light	...	Clear.
	16	...	20.043	76	65	62	W	Light	...	Ditto.
	16th	9-30	20.070	73	62	50	W	Light	...	Ditto.
	16	...	20.013	76	61	44	W	Light	...	Ditto.
	17th	9-30	20.076	74	65	70	W	Light	...	Ditto.
	16	...	20.836	75	65	65	W	Light	...	Ditto.
FAIRY POINT.	18th	9-30	20.011	73	66	67	W N W	Light	...	Ditto.
	16	...	20.020	75	65	55	W N W	Light	...	Ditto.
	19th	9-30	20.021	73	68	76	S E	Light	...	Partially cloudy.
	16	...	20.774	74	67	67	W S W	Light	...	Clear.
	20th	9-30	20.654	72	70	60	S W	Light	...	Threatening.
	16	...	20.710	74	72	90	S	Light	...	Occasional light showers during the day not measurable.
	21st	9-30	20.856	75	74	95	S W	Moderate	...	Threatening.
	16	...	20.800	77	60	64	W	Light	...	Partially cloudy.
	9th	9-30	20.058	74	70	81	Calm	...	...	Overcast.
	16	...	20.055	75	71	91	N E	...	...	Light winds and fine.
	10th	9-30	20.049	77	73	81	S E	...	...	Ditto ditto.
	16	...	20.010	77	74	80	S	...	...	Strong breeze and fine.
PATA.	11th	9-30	20.018	74	72	66	W	...	...	Light weather.
	16	...	20.010	77	73	86	S S W	...	...	Ditto.
	12th	9-30	20.000	77	74	86	W S W	...	...	Ditto.
	16	...	20.008	78	74	81	S W	...	...	Ditto.
	13th	9-30	20.004	74	74	81	S W	...	...	Fresh breeze and fine.
	16	...	20.810	77	74	86	S W	...	...	Ditto and overcast.
	14th	9-30	20.010	77	74	86	Variable	...	...	Light weather and overcast.
	16	...	20.005	79	76	86	S S W	...	...	Ditto ditto.
	15th	9-30	20.021	80	77	86	S S E	...	...	Ditto ditto.
	16	...	20.045	79	76	86	S E by E	...	...	Ditto ditto.
	14th	9-30	20.802	74	64	55	S W	...	...	Much warm.
	16	...	20.738	77	61	60	N W	...	...	Ditto.
	15th	9-30	20.829	70	63	61	W N W	...	...	...
	16th	9-30	20.778	77	64	45	W	...	...	...
	9-30	...	20.867	64	59	51	W	...	...	Again cold.
	3-30	...	20.734	78	64	42	W	...	...	...
	17th	9-30	20.857	79	63	54	W N W	...	...	Ditto.
	3-30	...	20.726	79	60	47	W N W	...	...	...
	18th	9-30	20.856	69	61	71	S W	...	...	Fine day.
	3-30	...	20.671	77	65	49	N W	...	...	...
	19th	9-30	20.815	70	62	61	W	...	...	Cloudy.
	3-30	...	20.825	78	64	43	N W	...	...	...
	20th	9-30	20.907	69	63	65	W	...	...	Ditto.
	3-30	...	20.740	72	65	66	N W	...	...	...

Abstract of corrected Observations as received in the Meteorological Reporter's Office.
JANUARY 1868.

HOURS OF OBSERVATION 10 AND 16.

N. B.—The Barometric data are reduced for temperature, not for height, above sea level: Dew-point is calculated by Guyot's Tables.

STATIONS.	10 Hours.						16 Hours.						MEANS FOR THE MONTH.					Rain.
	Max. Ther.	Min. Ther.	Max. Bar.	Min. Bar.	Date.	Max. Ther.	Min. Ther.	Max. Bar.	Min. Bar.	Date.	Max. Ther.	Min. Ther.	Barometer.	Dry.	Wet.	Dew-point.	Elastic force of Vapour.	
	Date.	Date.	Date.	Date.	Date.	Date.	Date.	Date.	Date.	Date.	Date.	Date.	Date.	Date.	Date.	Date.	Date.	
Calcutta	73° 28th	63° 3rd	30.198	30.017	28th	79° 29th	60° 31st	30.073	29.870	28th	73° 73°	63° 63°	30.051	73°	63°	55	.445	0.06
Saugor Island	72° 28th	61° 3rd	30.123	29.951	28th	81° 28th	72° 31st	30.055	29.833	28th	73° 73°	66° 66°	30.019	73°	66°	61	.540	P
Chittagong	70° 29th	64° 11th	30.048	29.875	28th	74° 29th	67° 10th	29.957	29.775	28th	69° 69°	63° 63°	29.919	69°	63°	62	.555	Nil.
Akyab	75° 31st	62° 10th	30.106	29.921	28th	81° 29th	73° 4th	29.900	29.812	28th	74° 74°	69° 69°	29.957	74°	69°	65	.619	Nil.
Cuttack	74° 30th	67° 17th	30.223	30.017	28th	78° 30th	74° 23rd	30.112	29.880	23rd	73° 73°	65° 65°	30.078	73°	65°	60	.521	0.10
False Point	71° 30th	68° 16th	30.128	29.901	28th	75° 30th	71° 24th	30.023	29.819	28th	72° 72°	68° 68°	29.977	72°	68°	66	.638	Nil.
Madras	83° 21st	73° 24th	30.155	29.949	24th	83° 31st	75° 24th	30.016	29.882	23rd	81° 81°	73° 73°	29.986	81°	73°	69	.691	4.75
Dacca	* ...	... ..	... ..	... ..	...	... ..	... ..	... ..	... ..	...	... ..	... ..	... ..	... ..	... ..	...	.....	Nil.
Darjeeling	47° 17th	35° 31st	29.130	29.214	9th	54° 29th	35° 31st	29.353	29.178	7th	45° 45°	42° 42°	29.293	45°	42°	37	.225	0.45
Benares	73° 5th	57° 29th	30.037	29.843	23rd	75° 24th	55° 1st	29.921	29.703	18th	66° 66°	60° 60°	29.569	66°	60°	52	.393	0.09
Roorkee	68° 12th	53° 27th	29.322	29.098	23rd	71° 28th	55° 27th	29.291	29.016	17th	62° 62°	55° 55°	29.152	62°	55°	47	.329	1.89

* Not published on account of the Observations received being erroneous.

BENGAL SECRETARY,
The 29th February 1867.

HENRY F. BLANFORD,
Meteorological Reporter to Govt. of Bengal.